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RAILWAY AGE

Appealing to Selfish Interest in the Railroad Problem

The management of the railroad industry has failed in almost every effort it has made for years to improve the condition and results of the industry. The specific objective of every such effort has been maintenance or increase of net earnings, but net earnings have steadily continued their generally downward trend. They have been (1) much smaller during the decade of the depression than during the preceding decade; (2) smaller during the second five years of the depression than during the first five years of it; and (3) smaller thus far in 1939 than in any preceding year of the depression excepting 1932 and 1938. The average price of industrial stocks as reported by Dow-Jones is 65 per cent lower than ten years ago—which seems bad enough; but the average of railroad stocks, according to the same authority, is 86 per cent less.

Defensive Measures Alone Will Never Win a War

Such a record of failure in any industry, business or activity obviously calls for changes in personnel or methods or both. If methods the use of which persistently results in failure are not changed that proves there is something wrong with personnel. What, then, is wrong with the methods of the railroad industry that chronically causes them to result in failure? It is primarily the job of management to get the answer to that question, because it is the job of management to manage, and ascertaining the reasons for failures is always an important part of managing. However, we venture to hazard the view that the methods and policies of the industry in dealing with the public and labor have been so ineffective principally because, first, the industry has not appealed often and effectively enough to the *selfish interest* of those that should have supported it, and, second, its policies have been too largely *defensive* and not largely enough *offensive*—it hasn't initiated enough demands or fought hard enough for those it has made.

It is inconceivable that the American people would permit present conditions to continue in transportation if they realized the harm these conditions are causing to *their* well-being. Railroad people have spent too much time talking about the injustices done to the railroads and not enough showing specifically how these injustices to the railroads injure former railroad employees, the farmer, the small business man and others not connected with the railroads. When people hear the story as it usually has been told they say "What a shame!" and immediately revert to thinking about their own troubles. Nor is the public's action surprising or blameworthy, because most of them have plenty of troubles of their own. Besides, if they have spare time or emotion to devote to other people's worries it is not likely that they will be directed to the plight of the railroads as long as the country has millions of unemployed.

We are in favor of lofty ethical behavior by everybody, and we wish everybody, including ourselves, could spend more time ministering unto his fellows and less on loving concern for himself. However, we have to live in the world as we find it—and it must by now be clear that the political evils which beset the railroads are not going to be righted unless and until a substantial majority of the American people are brought around to the view that present conditions are hurting *them*. And not just hurting them a little bit, but enough to stir them into raising hell until these conditions are corrected.

When Public Realizes Railroad Situation Hurts *Them*, They Will Correct It

Over 150 years ago Adam Smith wrote that it was not the benevolence of the butcher and the baker to which we look for tonight's supper, but to their regard for their own selfish interest. That observation amounts to an economic law. If we want people to act to our economic advantage we have got to show them that such action will be helpful to *them*. Just one more generality, but an important one: Your individual farmer or shipper or school-teacher does not respond as quickly when you address your sales talk to farmers-in-general or shippers-in-general or school-teachers-in-general. You have got to get into his mind a conviction that *he as an individual* has a vital interest at stake in the situation you are talking about.

For example, suppose you say:

"Mr. Wheat Farmer, we railroads are charging you more than we want to for taking your wheat to

market. We don't like charging you so much any more than you like to pay it—because, quite apart from the feeling of neighborly good-will, we realize that the higher the rates are on your basic crop, the less money you will have left to spend; and when you spend less money, fewer goods move into your local stores . . . and fewer purchases from your stores mean less freight traffic for us. You ought to have lower rates—but there are several serious obstacles which prevent our giving them to you. We cannot remove these obstacles, but you can." Then suppose you go on from there stating in the simplest possible terms two or three specific points about government subsidization and what Mr. Farmer can do toward its removal.

We are citing the foregoing, of course, merely as an example and are not thereby expressing the opinion either that wheat rates actually are too high or that they should be reduced, even if the railroads could afford to reduce them. But we do believe that an appeal just as direct as that can be made in all honesty to every occupational class in this country in behalf of removal of the handicaps which now beset the railroads.

Take this matter of government ownership, for instance. It is usually mentioned in an angry tone, like "Communist!"—and it has a certain superficial unpopularity. But, actually, do most Americans now have any really deep feelings on the subject—deep enough to cause them to do something drastic to prevent it? We run into people right along who are too intelligent to be taken in by mere unpopular labels—people who ask what, after all, is really so terrible about government ownership. Of course, they don't think much of the idea—but how disastrous would it be, after all, to *them?* Other countries, they say, have it without going to rack and ruin.

Who Are the Present Enemies of Government Ownership?

Significantly enough, the most important body of public opinion outside the railroad industry in this country which is deeply and irreconcilably opposed to government ownership is composed of industrial traffic managers. And most of them do not oppose government ownership from lofty principle but from the purely selfish desire to continue playing off one railroad against another to win concessions for which they will get credit. These gentlemen oppose wholesale consolidations just as vehemently, and *for the same reason.*

In short, **the only real die-hard enemies of government ownership are and will be persons who are fully awake to the important selfish interest they have in the maintenance of private ownership.** If this observation is accurate, then the only way to arrest the present swift drift toward government ownership is to awaken the recognition of a selfish interest in private ownership (and in policies necessary to preserving it) in the minds of all who actually have such an interest but do not know it.

We are not here suggesting dishonest propaganda, but simply a presentation of the facts regarding the different ways in which the various classes of the people would be affected by government ownership. After all, it is no disservice to a man to tell him that his house is on fire when it is on fire.

The first job to be done, however, before people can be shown how government ownership is going to *hurt* them, is to convince them that the threat of such an event is serious. Government ownership to most people is a hobgoblin who has been talked about fearfully for so long that the scare has worn pretty thin; and many are beginning to refuse to be frightened at the mention of his name because they doubt his existence. This hobgoblin has got to be turned into a real live Hitler who can be seen and heard before most people are going to be convinced that he can harm them.

Is, then, government ownership a mere spook or is he a flesh-and-blood enemy, marching rapidly upon us? The best argument in favor of the spook hypothesis is that nobody of any consequence wants government ownership (except, perhaps clandestinely a few New Deal left-wingers). But neither did the people of Europe want war. But they did have Hitler; and now they have war.

Public Favors Private Ownership but Not the Means for Preserving It

It is fatuous to will a result without willing the means by which that result can be achieved. The American people have willed in favor of private ownership of railroads, but they have not willed the means by which private ownership may be maintained. The one and only *means* by which private ownership of railroads, or any other private business can be maintained is profits adequate to attract private investment capital and the railroads cannot make adequate profits under the competitive and labor conditions to which they are now subject. Consequently, the railroads have not for more than eight years been able except in a few isolated cases to attract any such capital (except for rolling stock which remains the property of the lenders until it is paid for); and their physical plant is steadily wearing out more rapidly than it is being replaced.

In last week's issue we gave the figures as to railway rolling stock, and it will not be necessary to repeat them in detail here. It will suffice to recall that the railways today have 6 per cent less freight car capacity than they had 25 years ago; and that 25 years ago only *one-fifth* of the car supply was more than 10 years old, whereas today almost *three-quarters* of all freight cars are more than 10 years old. Twenty-five years ago more than *half* of all locomotives in service were strictly "modern" (that is, less than 10 years old), whereas today only 10 per cent are "modern." As a matter of fact, 70 per cent of locomotives today are 20 years old or older.

But, some may say, the railroads needed new and better equipment 25 years ago more than they do today because they handled more traffic. That statement,

however, is not true. The railroads in 1938 *in a bad depression year* hauled more freight than they did in 1914; yet from the comparatively high volume of business activity in 1914 the war in Europe within two years brought an increase of 19 per cent in railroad traffic. The potentialities now, with Europe at war, appear to us to indicate a much greater increase in railroad traffic than that which occurred from 1914 to 1916, because American industry has so much more unused capacity now than it had then.

The Decay of the Track Structure

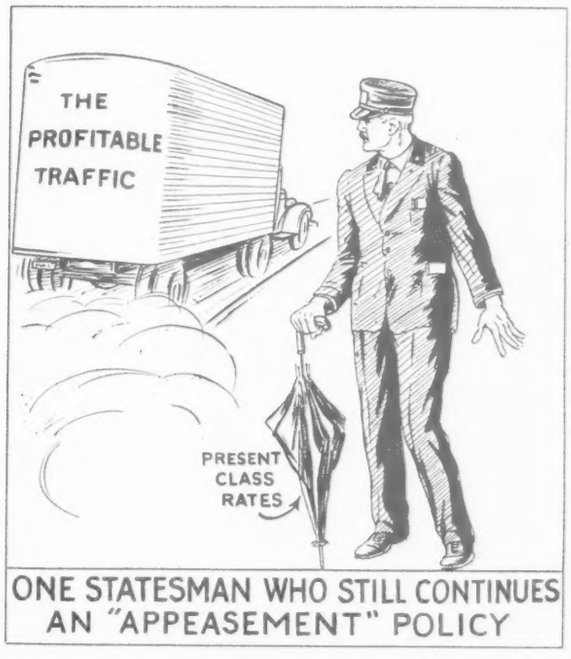
But to return again to the condition of railroad plant—track structures, for instance. These likewise are wearing out much more rapidly than they are being renewed. In the five years ended with 1930 the average rail applied annually *in renewal* was 1,978,081 tons. Since that date the average tonnage of renewal rail has been only 668,467 tons—*a decline of 66 per cent.*

Similarly with cross-ties. In the five years ended 1930 the average annual number of ties placed in renewal was 74,897,877. Since that time the average annual renewal has declined to 43,842,063—a reduction of 41 per cent. When it is recalled that the volume of traffic has little to do with the service life of ties, the ratio of unmended decay represented by these tie statistics is perhaps more striking even than that shown by the figures on the decline in rail renewals.

There are many more evidences which could be cited of the deterioration in railroad plant, but those given are sufficient to illustrate the condition. The country can-

What Will the Traffic Bear?—30

A motorist who had grown up in the inertia of plenty, and had been sheltered and shielded from the rigors of he-man competition, lost control of his car and drove it into a truck driven by a two-fisted son of Erin, whom he tried to appease with the apology, "I am so sorry, it was all my fault. Won't you forgive me, please?" But the Hibernian countered, "Hell buddy, this ain't no romance—this is an argument." That is what the competitive struggle between the various transportation agencies has become and it is time for the railroads to realize it. Net income for trucks trebled in 1938 but railway net was off 37 per cent.



ONE STATESMAN WHO STILL CONTINUES AN "APPEASEMENT" POLICY

Pacification has its place. When the other fellow continuously professes pacifism, however, while never ceasing to hit below the belt with pick-and-choose rates, the time comes when resort to other methods becomes imperative.

The place to start the "argument" is with the railroad classifications and rates. These can be turned into a formidable weapon, with which to launch an aggressive offensive along sound economic lines. As an example of the incongruities which need correction, compare the New York-Philadelphia class rates with the Southern and Western class rates.

CLASS RATES

	Classes			
	1	2	3	4
New York to Philadelphia	62	53	43	31
Western Trunk Line—East of Missouri River	72	61	50	40
Western Trunk Line—West of Missouri River & Southeast	81	69	57	45
Southwest	88	75	62	48
Differential territory	101	86	71	56

The operating costs on the New York-Philadelphia highway are among the highest in the country, but the rates are the lowest. The rates in the South and West are among the highest but their operating costs are among the lowest.

The wide variation in the class rates of the various areas does not begin to tell all that is wrong with this historic pricing structure. As further indication of its failure to meet today's conditions: There is a large volume of traffic in each of the above classes that will load to the full weight capacity of a truck. The lowest rates are lower than necessary and the highest rates are entirely too high to meet truck competition. **This is why the trucks are enabled to pick-and-choose—thus trebling their net income while the railroads lost a third of theirs.**

All that is necessary is to revise competitive rates, some upward, some downward, so as to relate them logically to costs of handling by rail. This would place the railroads on a sound competitive basis of pricing. **Such revision can be so made that it will result in large increases in both traffic and revenue for the railroads.**

not continue its economic existence without railroad service—and yet the evidence is as clear as it possibly could be that the plant which supplies this vital service is disappearing right before our eyes.

In the sharp "recession" last year there were many large railroads which for several months failed to earn their operating expenses. If that condition had continued a few months longer these railroads would either have had to cease operation (an unthinkable eventuality —since it would have meant economic death to the territories they served) or the government would have had to take them over to make them "produce for use but not for profit."

Now that a war crisis confronts us, let us not forget that **net railway operating income can vanish quite as surely from rising costs as from a decline in traffic.** And in a time of crisis a cessation of railway service is even less thinkable than in time of peace and depression. Many railroads today have so little "fat" left that a few months of operating deficits would find them unable to continue under private operation.

"We're Doing Okay, Buddy" Is Neither True Nor Expedient

Government ownership may come much sooner than anybody now anticipates unless prompt and realistic steps are taken to avert it. And the first of those steps should be to arouse all persons who would be victimized by such a development to a realization of conditions. But this is not going to be done by the railroad industry continuing a publicity policy of Pollyanna. It is going to be done, if at all, by the industry adopting a policy of telling the bald truth about the conditions with which it is confronted, demanding the improvement of these conditions and proving to the most concerned classes of the people that it is to their *selfish interest* to help railroad management get these conditions improved.

Some Public Relations Methods of the Bell Telephone Company

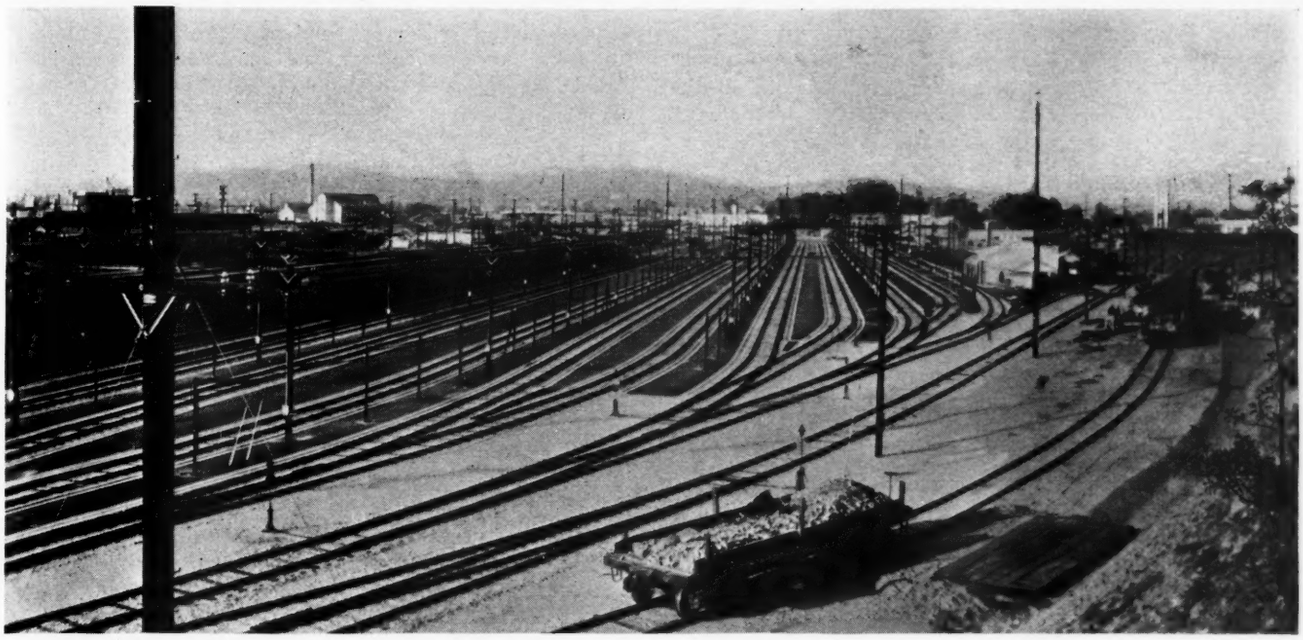
"The employees of the Bell System represent a cross-section of the entire social strata. Not only through courtesy and efficiency in handling their relations with the public during office hours, but in social contacts outside the office, this large group carries on a campaign of good will and education of the general public to the merits of the Bell System. Next to the Federal Government the Bell System is the largest single employer of labor in the United States. In 1929, at the peak of employment, there were approximately 450,000 employees in all the Bell controlled companies. As of December 31, 1936, Bell System employees numbered approximately 300,000. These employees are spread throughout the United States, reaching into all of the large cities and most of the counties. They receive special instruction in methods of contacting the public.

"In addition to the individual efforts of the employees to promote good will, publicity and public relations problems of the Bell System are concentrated in an information or public relations department in each company. The functions of such departments are substantially the same. The information department of each company is headed by a person ranking high in importance among the officials of the company. Usually he is a vice president or assistant to the president. Most of these men are "career men" in the telephone business. Some have had experience outside of the telephone field, usually in the newspaper or publicity field. Many are former newspaper reporters, editors and publishers. It is the function of each information department to act as spokesman for the executive departments of the company, either through the written word, motion pictures, advertisements, or through any other means by which the company speaks to the public. It also endeavors to ascertain the public's point of view and to act as an interpreter of the public to the company. Such departments prepare advertising, read proofs, and attend to the physical duties in connection with advertising campaigns. The officer in charge consults frequently with the commercial manager of the company and with division commercial managers.

"The publicity department serves in an advisory capacity to all other departments, its facilities being used to solve any problem of those departments in which relations with the public are involved. Such departments prepare news releases and stories for the use of commercial departments and for circulation among employees, stockholders, subscribers, and newspaper editors. Publicity conferences are held under the auspices of the American Co. once or twice a year. At such conferences problems common to all companies are discussed.

"The information or public-relations departments are not the only organizations that engage in long-range cultivation of public opinion. The commercial departments of the various operating companies of the Bell System are important vehicles in public relations. They come into daily contact with the public and have an opportunity of visiting people on operating matters and sales efforts. Public relations are a major item in the commercial programs of Bell operating companies. . . ."

——*A Few Paragraphs from a 15-Page Chapter on Telephone Company Public Relations in the 660-Page Report of the Federal Communications Commission on This Company.*



Looking North Through the New Modern Coach Yard at Los Angeles

Southern Pacific Builds Modern Coach Yard at Los Angeles

New facility, built in connection with recently completed union passenger terminal, provides water, air, steam, and air-conditioning and battery-charging power to car servicing tracks

IN conjunction with the new union passenger terminal completed recently at Los Angeles, Cal.,* although an entirely separate project, the Southern Pacific has built a passenger coach yard, which is the most up-to-date facility of its kind on the road and which incorporates a number of special features to insure satisfactory and efficient cleaning and servicing of air-conditioned passenger train equipment. This new yard, built at a total cost of approximately $700,000, is of the through type, with 12 service tracks at present, all served by intermediate, paved working platforms, and is supplemented by an entirely new layout of service buildings, the more important of which include a commissary building, a Pullman building, a battery building and a service building. In addition, the yard is well floodlighted for night operation and is serviced throughout with air, water and steam lines, and with power circuits for charging batteries and for testing and operating air conditioning equipment.

Across River From New Terminal

With the decision to build the new union passenger terminal near the new civic center of the city on the west side of the Los Angeles river, about a mile north of the Southern Pacific's existing passenger station at Fifth and Central streets, the road was confronted with the necessity of building a new passenger car servicing yard, since its existing yard, located at Eighth and Alameda streets, was not only a considerable distance from the new terminal, but could be reached only by a circuitous route involving numerous grade crossings and movements over important streets.

Several sites for the new yard were considered, but that finally selected is located northeast of the new passenger terminal, on the east side of the Los Angeles river, in an area contiguous to the road's existing locomotive and car repair shops. This site, known as the Mission Road site because of a road bearing this name which bounds the area on the south side, lies between the Southern Pacific's main line to New Orleans, La., on the north, and tracks of the Union Pacific on the west, both of which have direct connection with the new passenger terminal over bridges crossing the Los Angeles river. Via either route, the new coach yard is less than a mile from the terminal platform tracks, and movements to and from the yard are entirely over private right-of-way free from street crossings at grade.

The yard itself, which occupies an area of approximately 33 acres, lies in a general east and west direction, and, at the present time, includes 12 servicing tracks and 3 passenger car storage tracks, together with necessary

*A Description of the Los Angeles Union Passenger Terminal was presented in the *Railway Age* of May 6.

switching leads, a run-around track, a service track for the yard buildings, a car repair track, and a running track providing service to the various tracks of the stores department facilities located on the north side of the yard at both ends. The 12 car-servicing tracks are grouped together and are flanked along their south side by the various car servicing buildings, and along their north side by the car storage tracks.

The car servicing tracks, from 1 to 12, are spaced 22 ft. center to center, except in the case of Tracks 8 and 9, at about the center of the yard, which are spaced 30 ft. center to center. The tracks range in length from approximately 1,350 ft. to 2,200 ft., and will accommodate a total of 177 cars. In addition, the three car storage tracks, longer than any of the servicing tracks, will hold 91 cars.

Paved Platforms Between All Service Tracks

A feature of the yard is that continuous between all service tracks are low-level asphalt platforms, bordered on both sides by concrete, curb-type gutters. The platforms, which are three inches thick, on a sand or gravel base, are pitched both ways toward the gutters for drainage, and afford a smooth surface for trucking and for those working about cars. The gutters, which form a part of the yard drainage system for collecting both rainfall run-off and water employed in cleaning cars, provide troughs 4½ in. deep by 10 in. wide at the bottom, which are sloped to outlets at intervals of 400 ft. The shape of the gutters is such that they form a curb support along both sides of the asphalt paving, holding it in place against disintegration along its edges, and also such that they can be cleaned readily of refuse by means of flat-blade shovels. These gutters, of which there are approximately 34,000 lin. ft., were poured in place in movable forms, the concrete being brought to the yard in transit-mix trucks from a central batching plant. At the yard, the concrete was dumped into hoppers on small, flange-wheel-mounted cars, which were pulled over the tracks to the points of pouring by means of motor cars.

Midway the length of the yard, all of the service platforms are joined by a cross, asphalt-paved roadway, 40 ft. wide, which connects with similarly paved areas along and about all of the service buildings. Thus, all walking and trucking about the yard is over well-drained pavement, which affords good working conditions, promotes sanitation and tends toward more efficient operation generally. All together, approximately 280,000 sq. ft. of paving was laid in the yard.

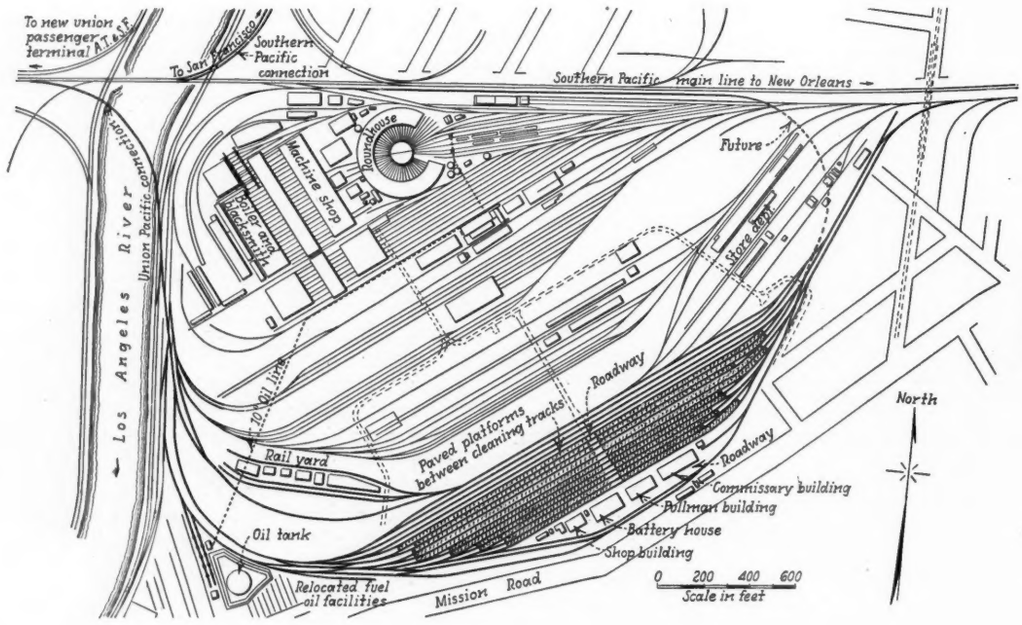
All of the tracks throughout the yard, of which there is a total of approximately 57,000 ft., are laid with 90- or 110-lb. rail on tie-plated creosoted ties, and are ballasted with at least 8 in. of crushed rock, beneath the ties. The 90-lb. rail is employed throughout in the service and storage tracks, while the 110-lb. rail is used in all lead and run-around tracks.

Well Graded and Drained

To make the Mission Road site available for the new yard required the purchase of 12 separate parcels of land which were being used for residential and industrial purposes; the razing of a number of buildings; and the relocation of several of the railroad's own facilities, including its rail storage yard, section quarters, and a large fuel-oil plant involving a 30,000-barrel steel storage tank and unloading facilities. It also involved considerable grading and leveling of the site, which required approximately 160,000 cu. yd. of excavation placed in fill, along with approximately 40,000 cu. yd. of material obtained from excavations in connection with flood control work being carried out by United States army engineers in the Los Angeles river.

All of the filling over the site was done in layers, and the material was solidified as placed by both the trucking equipment employed and by sheepsfoot rollers. Furthermore, all embankment areas were wet down by means of a wagon sprinkler as the solidifying work was carried forward. As a result, the fill areas were made as compact and stable as the natural ground in the cut areas, making it possible to follow the grading work closely with the track and platform work without fear of subsequent settlement.

Supplementing the natural drainage of the yard area, which is to the north and west, toward the river, an extensive system of sewers was installed throughout the yard to carry off all rainfall from the platform and building areas, as well as the large amount of waste water which will result from car-washing operations. In this system, which, as to capacity, was based on the amount of rainfall during the record-breaking storm in this ter-



General Plan of the Southern Pacific's Mission Road Coach Yard, at Los Angeles, Showing Its Relationship to the Road's Car Shops and the New Union Passenger Terminal

A Part of the Coach Yard, Showing from Left to Right the Commissary Building, the Pullman Building, the Battery Building and the Service Building

ritory in March, 1938, when more than one inch of precipitation an hour was recorded, the platform gutters form the principal collection agency, as previously mentioned. These drain to lateral intercepting sewers of 8-in. and 10-in. vitrified clay pipe, which extend crosswise of the yard at intervals of 400 ft. These lateral sewers, in turn, carry the water to a collecting sewer of 8-in. to 21-in. vitrified clay pipe, which parallels the north side of the yard and extends to a connection with the main storm sewer affording drainage to the car shop area.

All of the grading was done with gasoline-engine-powered shovels, motor trucks and tractor bulldozers. The sewer lines were installed in hand-excavated ditches after the grading was completed, but before any of the tracks were constructed.

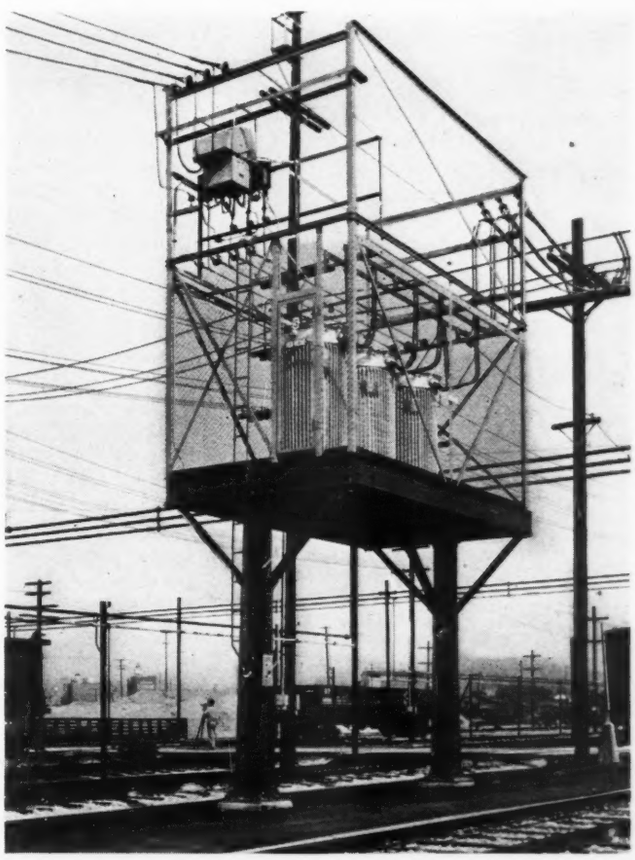
Served by Air, Water and Steam

Another feature of the new coach yard is that all of the service tracks are served by air, water and steam lines in an overhead system in which these lines are provided longitudinally through the center of alternate platforms, supported on second-hand 62- and 90-lb. track rails set upright in concrete footings. The various distribution lines, all of 2-in. pipe, are fastened to the rail supports by means of clamps welded in position. From these various lines, 1-in. pipe drops extend down to outlets at intervals suitable for servicing cars spotted in any position. The advantages of the overhead arrangement of service piping are that it affords constant inspection of the various lines, simplifies maintenance and replacement work, and insures a greater degree of sanitation in the case of the water lines used for the drinking water supplies in cars. In this latter regard, with the water outlets several feet above the platforms, no dirt can collect about the hose connections, and they will always be free from possible contamination by wash and drainage water.

Steam Supplied by Car Shop Power Plant

The steam supply to the yard, which is used for the air conditioning of certain cars and for car and building heating, as well as for testing steam lines, is supplied by the car shop power plant, which was enlarged in capacity to be able to supply the increased demand. In increasing the capacity of the plant, three of five 110-hp. horizontal return tubular boilers were removed and were replaced by two modern water-tube boilers of larger capacity. The new boilers are of the low-head, bent-tube type, designed for a working pressure of 175 lb. per sq. in. Each has a rated capacity of 200 hp., but they are designed and set to permit continuous operation at 250 per cent of their rated capacity, which will provide a combined capacity of 1,000 boiler horsepower. The drums of the new boilers are of welded construction, and the brick settings afford air-cooled furnace walls and floors.

Steam from the enlarged boiler plant is carried to the north side of the coach yard in a 6-in. line, carried overhead, except for a distance of 520 ft. where it is extended beneath the tracks of the stores department facilities. Through this area, where cranes are operated in carrying out the stores department work, it was considered safer to have the line underground. At the north side of the yard, the 6-in. supply line is divided



Close-Up View of the Transformer Substation in the Center of the Yard From Which Air-Conditioning Power Is Distributed

into two 4-in. lines, one on each side of the central roadway. To these 4-in. lines connections are made to the platform distribution lines, one of which is extended to the relocated fuel oil line.

Compressed air throughout the yard, which is employed principally for testing train lines, is supplied by an electrically-driven, automatically-operated compressor located in an independent building adjoining the service building; stand-by service being afforded by compressors located in the car shop boiler plant. The water supply at the yard is taken from city water mains.

Electrical Facilities

Supplementing the water, air and steam service lines, all of the car servicing tracks are served by electric power outlets for charging batteries and for testing air conditioning equipment or operating it in pre-cooling outbound cars. The power requirements at the yard consist of direct current at suitable voltages for charging batteries, and 230-volt, 3-phase, 60-cycle current for standby power service for Pullman mechanically air-conditioned cars and for the operation of such equipment as air and gas compressors, refrigerators and shop motors.

All distribution lines for both air-conditioning and battery charging are carried overhead. The main service feed, carrying 4,000-volt, 60-cycle current, crosses the yard on a pole line located approximately 200 ft. west of the center cross roadway. This leads to a transformer substation for air-conditioning power, located near the geographical center of the yard, and to another transformer substation on the west side of the battery building, for providing suitable power for operating the air compressor and the motor generator sets used for battery charging.

From the air-conditioning transformer substation in the middle of the yard, which is equipped with three 250 kv.a. General Electric transformers, an aerial bus runs across the yard, from which feeders extend in both directions on poles located along the same platforms as the water, air and steam service lines; the other platforms being clear of any obstruction. These poles are spaced 85 ft. apart, and are set at minimum clearance from one track to provide maximum clearance on the pposite side for the passage of hand carts, ice trucks, etc. Taps are taken down each pole to a steel box mounting two outlet receptacles. Portable cords, approximately 75 ft. long, are provided for making connections between the receptacles and cars.

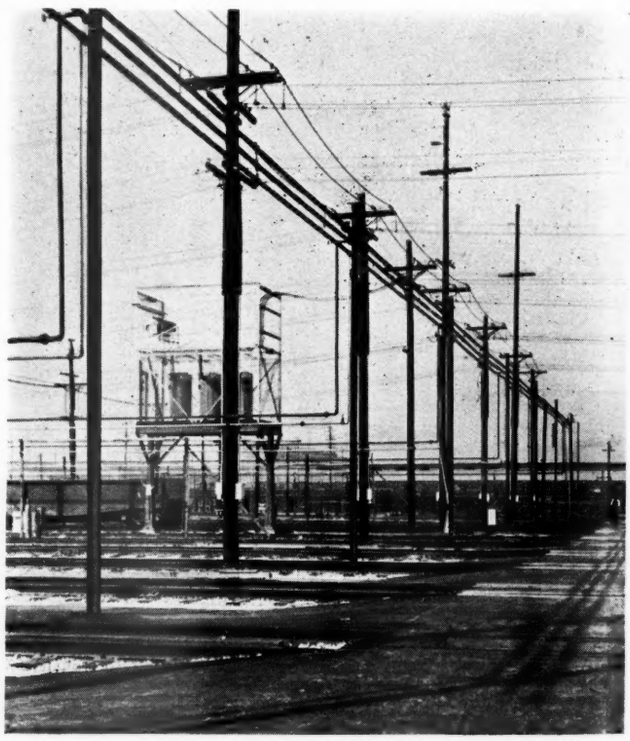
From the battery-charging transformer substation, which includes three 100 kv.a. Allis-Chalmers transformers, 460-volt, 3-phase current is taken into the battery building underground, where it is converted into direct current at three voltages—75, 125 and 200 volts, by two motor-generator sets, each having a 75 and a 125-volt generator. All battery charging circuits throughout the yard are run overhead on separate cross-arms on the same poles as the 230-volt, a. c. air-conditioning power circuits. At each pole, drops are extended down to a steel box housing two receptacles, the box in each case being located at the same level as, but on the opposite side from, the box containing the air-conditioning power receptacles. Flexible cables, about 60 ft. long, are used for making connections with cars.

A novel construction feature in the battery-charging service was employed where the circuits leave the battery building over head. Here, as a precaution against fire, two specially-constructed sheet metal entrance boxes were provided, each with an ebony-asbestos cover containing forty-three ¾-in. holes, staggered in five rows. Each hole passes an individual conductor, thus keeping them permanently separated and insulated from each other where they pass through the building wall.

General illumination of the yard for night operation is provided by sixteen 1,000-watt floodlights mounted on twelve 75-ft. wood poles. Four of these poles, each with single lights, are located across each end of the yard, while the remaining four poles, each with two lights, back to back, are located across the transverse center line of the yard.

The Commissary and Pullman Buildings

All of the car service buildings at the yard are located directly south of and along the group of car servicing tracks, and, as mentioned earlier, are surrounded by asphalt paving having direct connection with the paved platforms between the tracks. The more important building units include a commissary building, a Pullman building, a battery building and a shop or service building, although there are a number of smaller building units which house wash and toilet facilities, soiled linen, an incinerator for the disposal of garbage, etc.



Looking South Along the Center Cross Roadway, Showing the Main Power, Water, Air and Steam Distribution Lines

The commissary building, which is used for the storing and preparation of supplies used on dining car equipment, and also for offices for the clerical forces employed in connection with the commissary service, is a one- and two-story structure, 187 ft. long by 54 ft. wide. This building is of wood frame construction on a concrete foundation, with redwood exterior siding, and with interior walls, partitions and ceilings faced with various materials, including tongue and grooved wood, plywood, fibre wallboard and plaster. The roof, which is flat, is protected by built-up felt and asphalt roofing, and the floors are of either concrete or wood, wood being employed in the office areas covered with linoleum.

The first floor of the building is occupied by large

storage spaces, receiving rooms, a distributing area, refrigerated rooms and a kitchen, while the second floor, extending over about half of the ground floor area, provides some further storage space, but is used essentially for office purposes.

The Pullman building, which is located immediately west of the commissary building, is a two-story structure 130 ft. long by 34 ft. wide. Like the commissary building, it is of wood frame construction on a concrete foundation, has a flat roof protected by built-up roofing, and has redwood exterior siding and interior wall facings of tongue and grooved wood and plywood. The ground floor area, which has a concrete floor, is occupied by supply rooms, storage rooms, a mechanical shop and several related office areas. The second story, on the other hand, has a wood floor, and is devoted to wash, locker and toilet rooms for the mechanical and car-cleaning forces; an upholstery shop and storage rooms. In all wash, locker and office areas, the flooring is covered with Mastipave.

Battery and Service Buildings

The battery building, of the same general type of construction as the commissary and Pullman buildings, is a one- and two-story structure, 140 ft. long by 70 ft. wide. This unit, which is used by the mechanical department for the servicing of storage batteries and the repair of air-conditioning equipment, provides on the first floor a large battery reconditioning room with the required mechanical equipment, including monorail hoists; a generator room; a machine shop; a Waukesha motor repair room; storage areas and toilet facilities. The second floor provides space for locker rooms and for future toilet and washroom facilities.

The general service building, which is used in connection with the general servicing of coaches, is a one-story structure, with a mezzanine, 90 ft. long by 50 ft. wide. This unit, unlike the other building, is of steel-frame construction on a concrete foundation, with steel panel exterior walls and roof, and with interior walls and partitions of sheet metal on timber framing. The main floor is of concrete, while the mezzanine floor is of wood.

The facilities provided on the first floor include a filter cleaning room, a pad lubricator room, a tin and pipe shop, a carpentry and upholstering shop, a car cleaners' storage area, a tool repair room, a car foreman's office and an office for car department timekeepers. The mezzanine, on the other hand, is given over entirely for record storage.

With these new modern car servicing facilities, which provide for track expansion to the north as may be required in the future, the Southern Pacific is in an advantageous position to handle the servicing of all passenger car equipment operated into and out of the new union passenger terminal. Under ordinary conditions passenger equipment is brought into the west end of the yard over the Union Pacific connection, and is returned to the passenger terminal from the east end of the yard over the Southern Pacific's own tracks. To facilitate return movements, a new 1800-ft. pull-out track was constructed parallel with the road's main tracks, which will minimize interference with scheduled main-line train operation.

Move 30,000-Bbl. Fuel-Oil Tank

While the clearing of the site of the new coach yard of miscellaneous structures and facilities involved considerable work in itself, the major problem presented to make the site available was the moving of the road's large fuel-oil plant, which was located directly within the west end of the proposed track area. This plant involved a 30,000-bbl. steel oil tank, 115 ft. in diameter, with a floating roof, enclosed within dikes, together with the necessary track facilities, unloading pits, sumps, pumping equipment and piping incidental thereto. Many of the fixed facilities, such as pits, could not be moved for reuse, but the large storage tank was dismantled, moved and re-erected on a new site, approximately 500 ft. to the west, thus clearing the west end leads to the new yard.

At the new site, the tank was re-erected on an oiled gravel foundation 12 in. thick, and was surrounded with new safety dikes. Supplementing the tank, a new concrete pumping sump, together with suitable pumping equipment, was provided, along with two new service tracks equipped with ten concrete oil unloading pits. Steam coils, supplied with steam from the shop power plant, are provided in the sump and in each unloading pit to keep the oil at a pumping consistency.

Oil unloaded into any of the pits flows to the sump, from which it is pumped either to the storage tank or directly to oil columns located near the enginehouse within the shop area, approximately 2400 ft. away. Delivery to the oil columns is through a 10-in. line, which is supplemented by a parallel 3-in. line employed in a circulating system which keeps the oil within the supply line and the oil columns constantly at a temperature sufficiently high to permit its delivery to locomotive tenders. Operation of the oil-heating system, as well as the operation of the oil pumps, is entirely automatic.

All of the work in connection with the new coach yard was planned and carried out under the general direction of Chief Engineer W. H. Kirkbride and his staff officers of the Pacific lines of the Southern Pacific.

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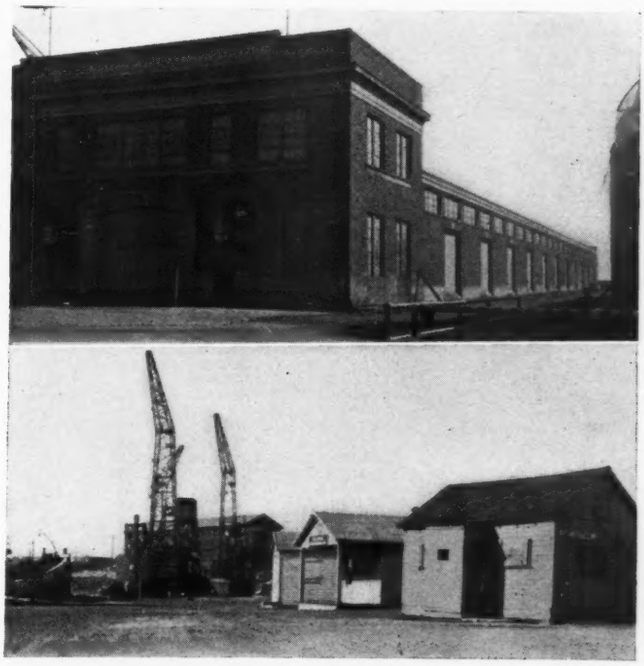
The Why and Wherefore of "Cheap" Waterway Transportation



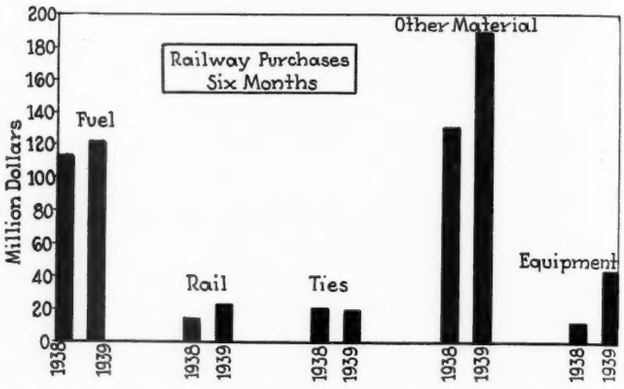
Above Is Shown a Terminal of the New York State Barge Canal at Buffalo Provided Entirely at the Expense of Taxpayers. Below Are the Terminal "Properties" Provided Nearby by Two Large Towing Companies on the Canal

Six Months Railway Buying Up 103 Million Dollars

June expenditures for materials from manufacturers 65 per cent over June, 1938—Less material on hand

APPROXIMATELY $403,083,000 of materials, equipment and fuel were purchased by Class I railroads of the United States in the first six months of 1939, according to figures which have been compiled from special reports to the *Railway Age*. This was an increase of approximately $102,552,000 or 34 per cent over the purchases in the first half of 1938, although the total was smaller by approximately $266,312,000 or 40 per cent than the corresponding purchases in the first six months of 1937.

The six months total for 1939 included approximately $236,336,000 of materials, exclusive of equipment, from manufacturers and approximately $44,854,000 of new equipment, or a total of $281,190,000 of materials and equipment from manufacturers. The remaining $121,893,000 was spent for fuel. The purchases of material from manufacturers showed an increase of $66,480,000 or 39 per cent over the corresponding purchases in the first six months of 1938 and the value of orders placed with manufacturers for new locomotives and cars in the first six months of 1939 was approximately $31,056,000, larger, while the combined purchases of materials and equipment from manufacturers during the six months period was $97,536,000 or 53 per cent larger than the total in the first half of 1938.



Comparative Purchases by Railroads in the First Six Months of 1939 and 1938

During the six months period the railroads took $23,-

Fuel and Materials on Hand—July 1

Road	July 1, 1938	July 1, 1939	Per Cent Decrease	Dollars Per Mile Of Road
A. C. & Y.	$ 128,743	$ 112,565	11	660
Alton	1,011,977	749,699	25	780
Alton & Sou.	92,028	59,449	35	1930
Ann Arbor	214,312	206,364	4	705
A. T. & S. F.	24,940,330	20,040,926	20	1480
A. C. L.	4,182,058	3,188,604	24	625
B. & O.	9,488,070	7,536,355	20	1170
Bang. & Aroos.	970,986	963,565	1	1600
Bing. & Gar.	68,626	68,857	—	730
Bost. & Me.	3,317,733	2,807,327	15	1440
Camb. & Ind.	72,828	62,046	15	1680
Cent. of Ga.	1,136,254	1,023,297	10	550
Cent. of N. J.	1,905,070	1,404,231	26	1980
Cent. Vt.	556,151	557,851	—	1290
C. & W. C.	255,275	200,244	21	570
C. & O.	5,175,536	3,988,181	23	1280
C. & E. I.	1,205,672	1,136,535	5	1230
C. & I. M.	324,306	307,031	5	234
C. & N. W.	10,969,052	10,729,006	2	1300
C. B. & Q.	10,126,897	8,911,483	12	1000
C. G. W.	901,701	664,344	26	440
C. I. & L.	1,065,383	726,620	30	1320
C. M. St. P. & P.	10,429,236	10,353,007	—	950
C. R. I. & P.	7,885,256	7,246,006	8	1000
C. St. P. M. & O.	1,635,511	1,668,046	+ 1	1020
Clinch.	506,992	538,388	+ 6	1750
Colo. & Sou.	403,526	639,221	+59	800
C. & G.	140,437	165,578	+17	980
D. & H.	2,467,622	2,247,391	8	2700
D. L. & W.	1,949,951	1,710,000	12	1740
Det. & Mack.	180,420	175,210	3	720
D. & T. S. L.	109,784	109,762	—	2200
D. T. & I.	537,837	427,347	20	900
D. M. & I. R.	1,617,608	1,228,617	23	2400
D. S. S. & A.	267,312	214,671	20	390
E. J. & E.	1,074,730	1,042,269	2	2680
Erie	3,737,425	3,521,385	5	1540
F. E. C.	1,855,190	1,686,417	9	2460
Ft. W. & D. C.	547,705	599,636	+ 9	670
Ga. & Fla.	105,248	101,834	4	250
G. N.	8,610,468	8,548,863	1	1060
Ill. Cent.	7,233,054	6,272,405	14	960
K. C. S.	1,425,044	1,312,015	8	670
K. C. T.	205,838	1,779,967	13	2030
L. S. & I.	282,438	256,007	9	1650
L. & N. E.	295,624	269,211	9	1340
Lehigh Valley	2,758,095	2,410,871	13	1880
Louis. & Ark.	788,045	930,107	+18	1540
L. & N.	8,303,435	6,929,861	17	1410
Me. Cent.	1,263,008	1,185,848	6	1190
Minn. & St. L.	808,530	826,132	+ 2	540
M. St. P. & S. S. M.	1,752,364	1,879,015	+ 7	440
M. & Ark.	54,351	55,118	+ 1	150
Missi. Cent.	122,655	104,285	14	700
M-K-T.		1,958,708		595
Mo. Pac.	11,157,552			
M. & O.	1,124,616	1,400,374	+25	1190
Monong.	229,912	209,817	8	1210
Montour	175,143	159,443	8	2840
N. C. & St. L.	1,671,544	1,657,235	1	970
Nev. Nor.	144,598	180,170	+25	1080
N. Y. C.	31,028,431	30,233,976	3	2680
N. Y. C. & St. L.	1,789,663	1,635,702	37	960
N. Y. N. H. & H.	5,838,508	4,522,963	22	2400
N. Y. O. & W.	517,088	472,149	9	820
Nor. & West.	7,284,427	7,470,721	9	3400
Nor. Pac.	9,585,618	9,253,934	3	1370
N. W. P.	227,986	173,646	23	490
Penna. and L. I.	38,572,185	33,463,144	12	3150
P.-R. SS.	147,693	152,296	+ 3	370
P. & P. U.	129,561	103,514	19	680
P. M.	1,716,720	1,702,474	1	815
Pitts. & Shaw.	131,040	129,778	1	1290
Pitts. & W. Va.	512,816	451,040	12	3320
Pitts. Shaw. & Nor.	89,069	77,499	13	410
Reading	5,261,209	4,755,605	11	3260
R. F. & P.	808,759	765,460	5	645
Rutland	267,592	257,323	4	630
St. L.-S. F.	4,809,241	4,569,047	5	890
St. L. S. W.	1,850,955	2,059,181	+11	1210
Seaboard	4,362,145	4,175,157	4	965
Southern	6,344,742	6,408,939	25	970
S. P.-Pac. Sys.	12,098,564	9,264,730	23	1070
S. P. & S.	864,155	886,445	+ 3	940
Tenn. Cent.	257,007	206,951	19	720
Term. of St. L.	504,960	328,264	35	700
T. & N. O.	4,482,471	3,498,985	22	795
T. & P.	3,876,221	3,846,679	1	1980
U. P.	26,637,746	24,303,968	9	2460
Utah	285,150	275,289	3	2500
Va.	2,328,448	2,069,981	11	3240
Wab.	2,426,597	2,559,884	+ 5	1060
West. Md.	1,762,863	1,717,775	2	1950
West. Pac.	3,083,600	2,209,700	28	1830
W. & L. E.	1,079,600	1,092,210	+ 1	2140
G. M. & N.	604,993	510,931	15	620

Six Months Purchases—Fuel and Materials

(Excludes Equipment)

Road	6 Months 1938	6 Months 1939	Per Cent Increase	Per Cent of Operating Revenues
A. C. & Y.	$ 145,595	$ 173,822	20	18.5
Alton	1,591,464	1,566,307	— 2	20.8
Alton & Sou	114,180	130,834	15	
Ann Arbor	238,850	467,391	65	25.6
A. T. & S. F.	12,948,780	15,261,175	18	21.4
A. B. & C.	448,085	367,638	—18	20.2
A. C. L.	6,046,839	4,823,904	—20	18.5
B. & O.	7,235,340	12,190,610	69	17.5
Bang. & Aroos.	949,365	674,998	—29	20.8
Bing. & Gar.	72,977	232,445	219	7.2
Bost. & Me.	2,739,924	3,462,510	27	15.5
Camb. & Ind.	79,611	65,682	—18	10.9
Cent. of Ga.	1,453,952	1,675,172	15	22.0
Cent. of N. J.	2,512,807	3,028,471	20	19.5
Cent. Vt.	552,829	662,975	20	24.6
C. & W. C.	391,457	317,859	—19	26.2
C. & O.	7,871,137	8,667,200	10	18.0
C. & E. I.	1,150,884	1,548,094	35	21.2
C. & I. M.	267,540	254,255	— 5	14.8
C. & N. W.	6,993,229	8,643,112	23	22.6
C. B. & Q.	7,601,723	9,314,231	22	21.8
C. G. W.	2,050,214	2,148,509	5	25.2
C. I. & L.	548,390	641,277	17	14.8
C. M. St. P. & P.			63	24.0
C. R. I. & P.	9,756,983	9,292,413	— 5	25.2
C. St. P. M. & O.	1,727,970	2,128,879	23	27.4
Clinch	635,219	573,844	— 9	17.4
Colo. & Sou.	548,805	703,262	28	24.0
C. & G.	105,466	167,939	60	24.2
D. & H.	1,299,436	2,081,110	61	17.6
D. L. & W.	2,659,432	4,020,656	52	16.5
Det. & Mack.	76,820	76,786	—	21.2
D. & T. S. L.	138,137	190,413	37	12.5
D. T. & I.	320,013	352,429	10	11.0
D. M. & I. R.	770,595	1,026,317	33	21.2
D. S. S. & A.	234,166	196,612	—16	20.8
E. J. & E.	644,141	1,051,125	63	13.4
Erie	5,592,271	6,779,193	21	21.2
F. E. C.	963,621	924,334	— 4	15.7
Ft. W. & D. C.	777,759	727,601	— 6	26.4
Ga. & Fla.	139,874	173,569	25	34.2
G. N.	5,869,548	8,311,297	42	22.6
G. M. & N.	505,710	478,575	— 4	14.7
Ill. Cent.	8,884,843	11,475,905	30	22.0
Ill. Terml.		484,745		17.9
K. C. S.	1,005,189	833,596	—16	12.7
K. C. T.	365,964	366,445	—	
L. S. & I.	60,025	73,479	23	10.5
L. & N. E.	155,191	182,333	18	9.1
Lehigh Valley	3,112,925	4,288,414	37	19.4
Louis. & Ark.	561,445	871,674	56	25.4
L. & N.	6,187,384	7,453,474	20	18.3
Me. Cent.	1,424,334	1,257,227	—12	20.7
Minn. & St. L.	767,779	1,013,936	32	24.8
M. St. P. & SS. M.	2,587,167	2,777,267	7	23.6
Missi. Cent.	62,319	98,673	58	25.0
Mo. & Ark.	104,251	103,600	—	20.2
M-K-T.	1,896,473	1,877,719	— 1	14.0
Mo. Pac. Sys.	10,534,417	11,681,410	10	22.6
M. & O.	848,948	1,061,035	25	18.3
Monong.	129,657	154,379	19	9.6
Montour	133,777	119,090	—11	16.4
N. C. & St. L.	1,152,757	1,532,907	33	21.0
Nev. Nor.	54,780	102,732	86	32.0
N. Y. C.	23,145,268	33,058,207	42	20.2
N. Y. C. & St. L.	2,891,590	3,480,618	20	17.8
N. Y. N. H. & H.	5,596,000	5,622,029	—	13.8
N. Y. O. & W.	596,405	727,106	22	21.8
Nor. Pac.	6,381,779	7,560,569	18	27.2
N. W. P.	257,176	204,848	—20	13.7
Penna. and L. I.	17,841,188	25,405,971	43	12.6
P.-R. SS.	176,045	398,412	126	17.4
P. & P. U.	147,756	155,926	5	
P. M.	2,409,571	3,137,241	30	22.8
Pitts. & Shaw.	59,925	*83,990	14	32.9
Pitts. & W. Va.	204,945	169,241	—18	11.9
Pitts. Shaw. & Nor.	55,584	66,221	19	15.3
Reading	3,344,588	4,086,301	21	15.6
R. F. & P.	984,407	1,112,374	13	24.2
Rutland	308,678	370,635	20	22.6
St. L.-S. F.	4,702,488	5,010,180	6	22.7
St. L. S. W.	1,401,250	2,545,965	82	27.4
S. A. L.	3,769,803	6,070,027	61	26.4
Sou.	10,269,406	12,586,758	22	22.2
S. P.	13,824,273	15,394,815	11	20.4
S. P. & S.	686,871	1,103,922	61	27.6
Tenn. Cent.	174,326	247,124	36	19.3
Term. of St. L.	758,095	737,322	— 3	
T. & N. O.	3,605,659	3,031,332	—16	14.5
T. & P.	2,135,204	2,455,779	15	19.5
U. P.	11,703,018	19,309,959	65	27.0
Utah	50,275	39,449	—22	11.6
Va.	2,146,283	1,349,899	—37	14.5
Wab.	2,944,662	4,362,877	48	20.0
West. Md.	1,166,526	1,599,725	38	22.4
West. Pac.	3,100,400	1,554,500	—50	22.2
W. & L. E.	442,447	895,170	101	15.0

*Partially Estimated

867,000 of rail, as compared with $15,473,000 in the same months of 1938, and they purchased $20,714,000 of crossties as compared with $21,982,000 in the first six months of 1938. The purchases of miscellaneous materials, including materials for repairing locomotives and cars, totalled $191,755,000, as compared with $132,401,000 in the first half of 1938.

Manufactured Materials Up 65 Per Cent

Materials and fuel, exclusive of equipment, purchased in June, totalling $61,122,000, were $1,462,000 less than the corresponding purchases in May but were larger by

Materials in Stock—Class I Railroads

1938	Fuel (000)	Rail New and S. H. (000)	Crossties (000)	Stores Stock (000)	Scrap (000)	Total (000)
Jan. 1	$30,499	$30,333	$59,015	$252,104	$13,106	$385,057
Feb. 1	31,453	31,820	66,153	242,328	11,634	383,388
Mar. 1	28,822	32,238	68,558	240,790	11,642	382,050
Apr. 1	27,847	34,644	73,280	233,396	11,214	380,381
May 1	25,223	34,076	71,583	232,747	10,464	374,093
June 1	22,391	33,504	65,020	230,902	12,127	363,944
July 1	22,568	33,007	63,271	226,370	10,042	355,258
1939						
Jan. 1	22,660	24,733	59,491	199,477	11,200	317,561
Feb. 1	25,594	24,691	61,796	196,335	10,388	318,804
Mar. 1	27,100	26,228	63,346	196,736	10,172	323,582
Apr. 1	29,445	27,695	65,246	197,244	10,825	330,455
May 1	24,101	28,459	60,750	203,658	11,365	328,333
June 1	21,048	29,345	57,067	205,079	11,638	324,177
July 1*	20,694	31,319	55,441	200,601	11,099	319,154

*Subject to revision.

$16,914,000 or 37 per cent than in June, 1938, and the purchases of materials, exclusive of fuel and equipment, from manufacturers, totalling $43,548,000 in June, were

Railway Purchases—Materials and Equipment—Six Months

	Materials received from mfrs. (000)	Equipment ordered from mfrs. (000)	Total from mfrs. (000)	Fuel (000)	Total including Fuel (000)
1929	$487,601	$246,802	$734,403	$171,999	$906,402
1930	436,283	115,047	551,330	162,517	713,847
1931	272,859	20,388	293,247	127,141	420,388
1932	150,450	1,931	152,381	94,650	247,031
1933	113,890	3,054	116,944	84,354	201,298
1934	210,686	53,657	264,343	104,694	369,037
1935	180,750	20,529	201,279	124,800	326,079
1936	258,640	89,638	348,278	127,959	476,237
1937	371,183	152,624	523,807	145,588	669,395
1938	169,856	13,798	183,654	116,877	300,531
1939	236,336	44,854	281,190	121,893	403,083

Revised to September 1, 1939

$17,165,000 or 65 per cent over like expenditures in June, 1938.

Over 70 railroads reported larger purchases during the first half of this year than in the first half of last

Railway Purchases—Materials and Supplies

1938	Fuel (000)	Rail (000)	Crossties (000)	Other Material (000)	Total (000)	Total Less Fuel (000)
January	$22,198	$1,830	$3,867	$26,225	$54,120	$31,922
February	20,298	2,369	3,698	21,521	47,886	27,588
March	20,334	2,886	3,891	23,563	50,674	30,340
April	18,770	2,749	3,464	21,227	46,210	27,440
May	17,452	2,794	3,525	19,864	43,635	26,183
June	17,825	2,845	3,537	20,001	44,208	26,383
6 Mos.	116,877	15,473	21,982	132,401	286,733	169,856
1939						
January	$23,102	$ 445	$2,601	$27,311	$53,459	$30,357
February	22,792	2,706	2,800	26,825	55,123	32,331
March	24,074	4,271	3,893	33,609	65,847	41,773
April	17,624	4,953	3,507	34,010	60,094	42,470
May	16,727	6,057	3,932	35,868	62,584	45,857
June	17,574	5,435	3,981	34,132	61,122	43,548
6 Mos.	121,893	23,867	20,714	191,755	358,229	236,336

Revised to September 1, 1939

year. The increases totalled 18 per cent on the Santa Fe, 69 per cent on the Baltimore & Ohio, 27 per cent on the Boston & Maine, 35 per cent on the Chicago & Eastern Illinois, 63 per cent on the Milwaukee, 61 per cent on the Delaware & Hudson, 52 per cent on the Delaware, Lack-

(*Continued on page 376*)

D. L. & W. Rebuilt Cars Feature Lighting and Decoration

Shadowless direct lighting and the use of a new photographic process on panel murals add much to interior attractiveness

THE Delaware, Lackawanna & Western has placed in through service, between Hoboken, N. J., and Buffalo, N. Y., two cars—a diner and a buffet-lounge car—which have been completely modernized recently at its Kingsland, N. J., shops. Both of these cars embody new features in lighting and interior decoration. The interior arrangement and decorations of both cars were designed by Douglas Ernst of Contract Sales, Inc., New York, in collaboration with the railroad company.

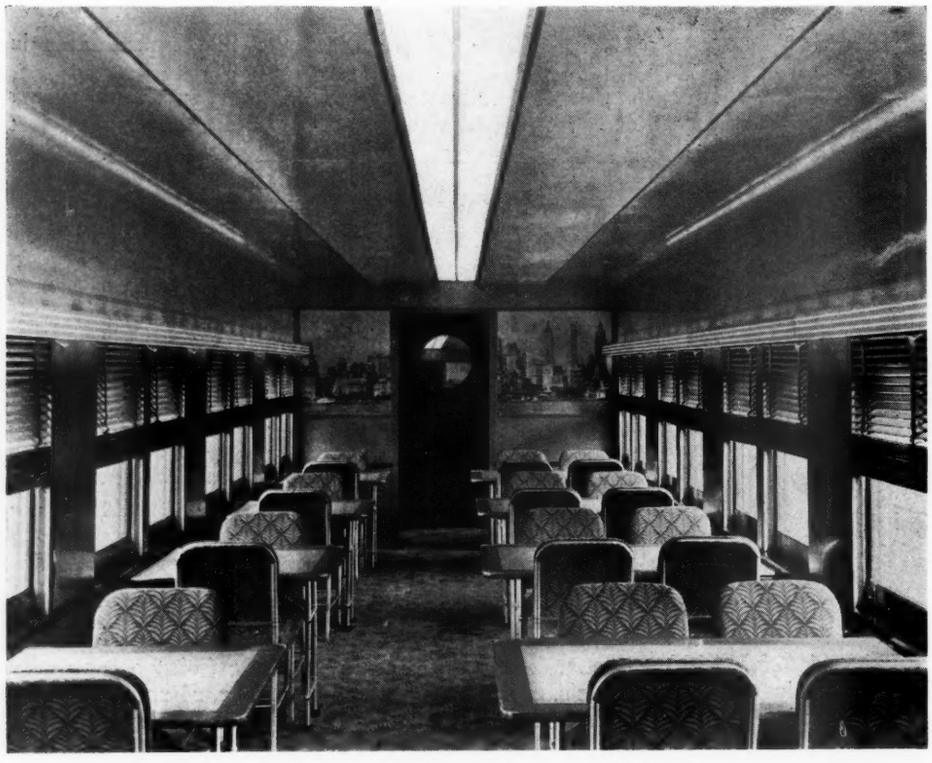
Interior Appointments

The diner is a rebuilt parlor car. No changes were made in the running gear or exterior but the interior was completely rebuilt. Chairs and tables are made with aluminum frames. Venetian blinds were applied to the windows, these being raised and lowered in the same manner as a window shade, and the slats tilted by means of a small handle at the upper right-hand corner of each window. The side walls and ceiling are painted in varying shades of blue-green, with a maroon trim. The darkest note in the car extends from the floor to the base of the windows. A second color, somewhat lighter, is used for the panels between the windows, a third is still lighter and extends from the tops of the windows to the Burgess panels, and the lightest shade is on the panels themselves. There are two maroon bands extending the length of the side walls, just above the side lighting fixtures, and the blue-green table tops are trimmed with maroon with aluminum bands at the edges.

Window sills are of black Bakelite and the chair upholstery and floor covering material is a mixture of maroon and blue-green, blending with the darker shades on the side walls. The Venetian blinds are also blue-green with maroon tapes. At each end of the car there are photo-murals depicting scenes in New York City. These pictures are photographed on a General Electric plastic and are also under a thin film of plastic which makes them washable with soap and water. They consist of silver tones on a maroon background.

Interior Lighting of Diner

The center lighting units in the diner consist of two rows of 15-watt lamps on 9-in. centers, arranged in double, inverted troughs or reflectors made of sheet steel in sections 45 in. long. The inside surfaces of the troughs are cadmium plated and painted with white Glyptol enamel. The lamps are in Federal sign sockets, screwed against leather gaskets and staked. The lower surfaces of the trough, which is flush with the ceiling, is enclosed by $\frac{1}{16}$-in. Insoroc plastic, which is completely diffusing and has high light transmission. The location of the lamp sources are not visible to an observer in the car. In each trough there are 30 lamps, making a total of sixty 15-watt units in the double center



The Interior of the Dining Car Has Been Designed So That Furnishings, Decorations and Lighting Blend to Produce an Atmosphere of Colorful Simplicity. Photo-Murals on Plastic Decorate the Panels at Both Ends of the Room

lighting fixture. Since it is fully enclosed, little cleaning is necessary, but when this is needed or when lamps must be replaced, the plastic strips can be removed by backing out screws part-way, and slipping sections of the plastic out of the retaining strips.

The center lighting is augmented by side lighting units extending the full length of the dining section immediately over the windows. These units are boxes of rectangular cross section placed end-to-end. They are mounted on piano hinges, so that when the unit is swung upward it opens a compartment back of the fixture which houses the mechanism for operating the Venetian blinds. In each box are six type T-8 Lumiline lamps placed end-to-end. The upper surface of the box is covered with clear glass, and the lower with the same plastic used for the center units. Inserted in three continuous slots in the side of the box are three Lucite strips. The strips extend the full length of each light box to form three decorative continuous lighted lines. The visible edges of the Lucite strips are etched so that no light source will show, and so that the lighting of the strips will be uniform. The Lumiline lamps are 30-watt units and there are 30 lamps on each side of the car.

Passageways and vestibules are lighted by flush-type ceiling units with 25-watt lamps, diffusing lenses and parabolic reflectors. The lenses are similar to those used for signal lamps, but differ in that the vertical edges of the prisms have been etched to avoid bright spots in the units themselves. The all-Monel-metal pantry and kitchen are lighted by five 50-watt lamps in RLM reflectors, supplemented by seven 25-watt local lights over the tables. The total connected lighting load is 110 amperes. All lighting units were supplied by the Safety Car Heating & Lighting Company. The lighting intensity on the table tops is 12 foot-candles.

Air Conditioning

The car has an ice-activated air-conditioning system furnished by the Safety Car Heating & Lighting Company. Approximately 1,500 cu. ft. per min. of air is recirculated through the dining section and fresh air is added at the rate of 600 cu. ft. per min. The conditioned air is admitted to the dining section through a Pyle-National multi-vent or Burgess ceiling, which is shown in one picture as the dark panels on either side of the center lighting unit. Temperature is controlled by Vapor correlative control.

The Dining-Car Kitchen Is Completely Equipped with Monel-Metal Fixtures and Is Air Conditioned

The kitchen and pantry are positively air-conditioned by air taken from the dining section through a duct running from the car ceiling at the pantry end of the dining section to two ceiling outlets, respectively, in the pantry and kitchen. There are two fans which draw about 600 cu. ft. of air per min. through the duct. Air is removed from the kitchen at points above the stove and sink by three exhaust fans having a capacity of about 800 cu. ft. per min. The difference between the amount of air taken from the dining section and that removed by the exhaust fans is taken in through louvers in the outside end doors and various other openings. There is no air cur-

A Combination of Side, Center and Special Lighting in the Buffet-Lounge Car Serves to Bring Out the Unusual Features of the Arrangement of the Interior Facilities to Greatest Advantage—Stainless Steel and Aluminum Trim Provide the Contrast to the Olive-Green Background

tain at the pantry door and tests have shown no movement of air from the pantry to the dining section. Air distribution is unaffected by the closing of this door. The air conditioning system requires a total of 33 amp. for pumps, blowers and control.

An additional 25 amp. is required for locker lights, dish washer and garbage disposal. The latter device is a motor-driven grinder or chopper which will finely divide nearly all forms of garbage, mix it with water and wash it down a drain.

Power Supply and Circuit Control

Electrical power is derived from a 10-kw. Safety generator, driven from the axle by a Spicer gear drive. The battery is an Edison 1,000 amp.-hr. type G-36. The power control apparatus consists of a Safety generator regulator, reverse-current relay and two lamp regulators, each controlling half of the total load. The total connected load is 168 amp.

There are 10 lighting circuits for the body of the car and 4 in the kitchen, all controlled by a single-pole branch circuit breakers of 15 and 20 amp. capacity. The center lights are on three circuits and the side lights on four, two for each side. The remaining circuits control lamps in the passageways and vestibules.

Buffet Lounge Car

The power supply equipment in the buffet lounge car is identical with that in the diner. The center lighting is also the same, but is supplemented by rows of rectangular double prismatic 25-watt units, one on either side of the ceiling. The lounge and buffet sections are separated by turrets and pilasters made up of 1-in. Lucite rods to form half cylinders. Back of the Lucite rods is a layer of Insoroc diffusing plastic. Inside the pilasters are seven 15-watt lamps. There is also an illuminated flower stand, the upper part of which is made of Lucite rods and enclosing a copper flower pot. The latter is mounted on a turret division, having a plate-glass top, under which there are four 15-watt lamps. Light through the glass illuminates the Lucite from the inside. There are also table lamps in the lounge section.

The color scheme of the car is copper and olive green, with aluminum and stainless-steel trim. The buffet section seats 18 persons in semi-circular booths. Upholstery and floor coverings are in shades of olive-green, fawn-henna and plum. End panels in the car show pictures of early Lackawanna locomotives. They are photographed on steel by a process developed by Permanent Arts, Inc., New York.

The plates are imbedded in plate-glass mirrors, the silver backing being omitted from the mirror in the space occupied by the picture. The car is air-conditioned by a Safety ice-activated system with Pyle-National multi-vent outlets. Like the diner, the air conditioning is also extended to the kitchen.

TWO LARGE BRITISH-OWNED RAILWAYS IN ARGENTINA—the 2,806-mile Buenos Aires & Pacific and the 3,700-mile Central Argentine—are to be operated jointly, according to consular reports. Although no actual merger is proposed, the two roads will be operated by a single staff of officers as a co-operative unit. Joint operation will be similar in most respects to the co-ordination of the Buenos Aires Great Southern and the Buenos Aires Western which since 1933 have had joint chief officers and unified train operation. Thus the "Big Four" of the British-owned lines in the country will comprise two operating units which may well be further amalgamated into a single system for operating purposes.

Six Months Railway Buying Up 103 Million Dollars

(*Continued from page 373*)

awanna & Western, 63 per cent on the Elgin, Joliet & Eastern, 42 per cent on the Great Northern, 30 per cent on the Illinois Central, 33 per cent on the Nashville, Chattanooga & St. Louis, 18 per cent on the Northern Pacific, 41 per cent on the Reading, 82 per cent on the St. Louis-Southwestern, 61 per cent on the Seaboard Air Line, 65 per cent on the Union Pacific, 48 per cent on the Wabash, and 100 per cent on the Wheeling & Lake Erie.

Less Materials on Hand

The indicated aggregate value of materials in the hands of Class I railroads at the close of June was $319,154,000, consisting of $20,694,000 of fuel, $31,319,000 of new and second hand rail, $55,441,000 of crossties, $200,601,000 of store house stocks and $11,099,000 of unsold scrap. This is slightly less rail than was in stock on July 1, 1938, and indicates a reduction of almost $10,000,000 or 15 per cent in the dollar volume of tie stocks and a reduction of approximately $25,000,000 in store stocks since this time last year.

Seventy-five railroads of 95 reporting inventory figures had less material in stock July 1 than a year ago. The reduction in total inventory, which necessarily includes large quantities of slow moving materials for standby purposes, totaled 25 per cent on the Akron, Canton & Youngstown, 30 per cent on the Chicago, Indianapolis & Louisville, 37 per cent on the Nickel Plate, 22 per cent on the New Haven, 12 per cent on the Pennsylvania, 25 per cent on the Southern, 23 per cent on the Southern Pacific, and 28 per cent on the Western Pacific.

* * *

DO YOU KNOW
that...
Railway Fares have been greatly reduced.
Your money will now go much further in the purchase of railway travel.
IN 1935 £1 BOUGHT 100 MILES OF TRAVEL
TODAY £1 BUYS 180 MILES OF TRAVEL

This Graphic Presentation of Reductions in Passenger Fares Is a Typical Advertisement of a Series Placed in Newspapers at Regular Intervals by the Victorian Railways (Australia)

Charles Donnelly Dies

Entered legal department of Northern Pacific in 1903—Has served as president since November 19, 1920

Charles Donnelly

CHARLES DONNELLY, president of the Northern Pacific, died at St. Paul, Minn., on September 4. He had been ill for some months and had undergone an operation from which he was believed to be recuperating. His death ends a railway career that began in 1903, when he became assistant division counsel of the Montana division of the Northern Pacific at Helena, Mont. Although Mr. Donnelly came up through the legal department, his studious nature caused him to become unusually well informed and proficient in the management of this railroad.

When Mr. Donnelly became president of the Northern Pacific on November 19, 1920, the road was in excellent physical condition as a result of an extensive program of rehabilitation that had been carried on during the years shortly preceding. With the completion of this program, the Northern Pacific had more double track than any railway in its territory, its terminals were modern and it was in a position to handle its traffic with ease.

Mr. Donnelly's administration of the Northern Pacific has been outstanding by reason of the manner in which he developed the mechanical facilities to utilize the roadway facilities that had been reconstructed by the preceding administration. It was during his administration that the Northern Pacific constructed the world's largest locomotive, a single expansion articulated 2-8-8-4 type, with a total weight of 1,116,000 lb. This locomotive was built to operate on the 216-mile district between Mandan, N. D., and Glendive, Mont., a district with maximum grades of 1.1 per cent, so located so as to make helper districts impracticable. This type of locomotive is able to handle over this district the same trains that are brought to it over districts of lighter gradients, reducing by 50 per cent the train mileage on this district.

Another accomplishment of Mr. Donnelly's administration was the establishment of long locomotive runs. The Northern Pacific was a pioneer in increasing the length of its runs in an effort to secure maximum service from its locomotives, as a result of which it was able, as early as 1928, to close four locomotive terminals. Constant study of this subject enabled the railway on October 26, 1930, to establish one of the longest locomotive runs in the United States, when on that date it began the operation of its transcontinental passenger service between St. Paul, Minn., and the Pacific Coast with only three engine districts, the longest of which was between Jamestown, N. D., and Missoula, Mont., 904 miles. The nature of this accomplishment is shown by the fact that five years previously the railway operated 13 engine districts on the 1,904 miles between St. Paul and Seattle. Coincident with the lengthening of engine runs, the Northern Pacific has prosecuted a program of development of its water supply for locomotives, including the improvement of existing facilities and the construction of new ones.

Still another development during Mr. Donnelly's administration that was designed to reduce the cost of locomotive operation was the opening of a strip mine in the Rosebud coal field in Montana in 1925, by means of which it was estimated at that time that the railroad would effect a saving of at least $700,000 annually in locomotive fuel supply between Mandan, N. D., and Missoula, Mont. The thoroughness which characterized Mr. Donnelly's administration has been reflected in the operation of this mine by the railroad's subsidiary, the Northwest Improvement Company, for in 1933 the United States Bureau of Mines awarded it a certificate of honor for operating an open pit mine without a fatality and only 82 lost-time accidents from January 1, 1925, to January 1, 1933, or eight years, with an exposure of 3,044,208 man-hours, while producing about 7,320,000 tons of coal, and removing approximately 15,356,000 cu. yd. of overburden.

The efficiency of Mr. Donnelly's management of the Northern Pacific is also reflected in its financial condition. During his administration the funded debt of the company was reduced from $324,214,500 as of December 31, 1920, to $309,222,500 in 1933, with the result that at the

(*Continued on page 379*)

Five Maintrackers Ready to Leave Downtown Chicago for Distant Points Without Intermediate Yarding

Possibilities for Main-Tracking*

Freight trains may be operated long distances efficiently by keeping them out of intermediate terminals

GENERALLY speaking, arrangements for holding trains on the main track at terminals on double or multiple tracks are the same; however, on single track it is necessary to place the train on a thoroughfare or other running track to permit other movements. The principle is the same. To accomplish the best results some terminals are being equipped with engine-changing facilities for water, sand, coal and cleaning, as well as for inspection, etc., while others are able to utilize existing facilities. In some instances, the roads are able to extend their engine and caboose as well as crew runs.

The use of spring switches or an interlocking plant will accomplish practically the same saving in time as the handling of the train on the main track, so far as entering and leaving the yard tracks are concerned; but main-tracking avoids delay in the yard in the movement of a train to or from the final yard track after passing the entrance and departure switches. Main-tracking likewise avoids delays to switch engines and crews in the handling of their yard work, and avoids the blocking of yard tracks, during periods of heavy traffic, that could be used for other purposes.

The successful main-tracking of freight trains is largely contingent upon operating locomotives and cabooses through terminals, which increases individual locomotive and caboose mileage, and provides greater use of equipment units at periods of heavy traffic. An essential feature connected with this phase of the operation is the provision of fuel and water facilities at suitable main-line locations, so that fuel and water can be taken while the train inspection is being made.

To operate main-trackers successfully through terminals at which they have heretofore been handled through the yards, the trains must arrive not only so as to eliminate switching but should be given attention on leaving the originating terminal to avoid hot journals or other defects on the engine as well as the caboose. Therefore, the servicing of locomotives to operate through terminals and the service-treating of journals and equipment before trains leave the originating terminal should be taken into consideration. Additional emphasis might be placed upon two features in considering main-tracking of freight trains: (a) The elimination of delays to freight trains entering and leaving yard tracks; (b) The psychological effect upon employees of handling a train on the main line.

There is a saving in terminal-to-terminal time for each train of 30 to 50 min. depending upon the yard layout and whether it is double or single-track territory, in handling a train on the main track, as compared with the time that would be consumed in stopping at the switch to enter the yard tracks, closing the switch after entering, stopping at the departure switch leaving the yard tracks and closing the switch. This actual saving in time by not having to stop to open and close switches frequently

* From a report presented before the American Association of Railroad Superintendents, by a committee of which O. R. Teague, assistant superintendent, Seaboard Air Line, Charleston, S. C., was chairman.

avoids long delays in periods of heavy traffic by advancing the train to the next siding for an opposing or following train.

The presence of a freight train on the main line focuses attention upon it, and is a compelling influence in the expedition of all branches of the work connected with inspecting, fueling and watering the train. The main-tracking of a freight train serves as an announcement to all employees that the train is of preferred importance, its performance is being checked closely, and that explanations will be required if terminal delays occur that might pass without notice or comment if the train was yarded in the usual manner.

Main-Trackers Pay Dividends

Possibilities by extended operation of main-trackers are varied, and include the following:

1. Improvement in schedules.
2. Maintenance of fast schedules.
3. Increased tonnage efficiency.
4. Increased road locomotive mileage, permitting reduction in number of units.
5. Increased miles per car per day.
6. Reduction in initial and final terminal delay.
7. Through classification to connections.
8. Psychological effect on employees.

Several roads have accomplished creditable results by main-tracking. The Baltimore & Ohio makes up solid trains in the Chicago district for Baltimore, Philadelphia and New York, which pass through three or four break-up yards without any switching except possibly adding to or taking off certain intermediate classifications, after which the train becomes a solid classification for a certain destination. The B. & O. was among the first roads to set up a regular standard of classification for the entire system, which produced the main-tracker.

The Chesapeake & Ohio at Russell, Ky., makes up solid trains for Toledo, Ohio, for the Erie at Marion, Ohio, for the New York, Chicago & St. Louis at Fostoria, Ohio, and for the Chicago division via Cincinnati. The Toledo, Fostoria and Marion trains pass through Parsons yard (Columbus, Ohio) intact. At other terminals similar movements are regular, and at Parsons, Ohio, a coal dock has been erected to serve multiple tracks with sanding and water facilities to handle through trains of over 140 loads of coal intact.

In the southeast the Atlantic Coast Line, the Seaboard and the Southern have put in through train service connecting with the Richmond, Fredericksburg & Potomac, which puts Florida produce on the eastern markets 24 hours quicker than ever before. To do this they have taken advantage of the limit in main-tracking. The Missouri Pacific considers it a simple matter for the terminal forces at Omaha, Neb., to make up trains of high-class freight in a classification that permits them to pass five district terminals without switching before arrival at St. Louis.

Similar action has been taken in the west, New England, and other parts of the country, as follows:

Railroad	Distance Miles	Equipped	Main-Tracked at
Union Pacific	485	Multiple tracks	4 terminals
Canadian National	833	Multiple tracks	8 terminals
Canadian National	832	Multiple tracks	7 terminals
Chesapeake & Ohio	700	Multiple tracks	5 terminals
C. & E. I.	372	Single and double	2 terminals
Atlantic Coast Line	680	Double	2 terminals
Seaboard Air Line	636	Double and single	2 terminals
Florida East Coast	241	Double	1 terminal

There are certain limitations to main-tracking, as follows:

Disposition or destination of traffic,
Length of traffic runs,
Changes in type or size of locomotives,
Track conditions, size of rail, tunnels, etc.
Crew assignment complications,
Volume of traffic.

It cannot be expected that all railroads can operate main-trackers, or that all through freight trains may be held on the main track at all terminals. Often the traffic will be a governing factor due to intermediate destination, or the requirement that more important traffic must have preference. This may be adjusted, however, by rearrangement at the starting point, or by providing filler tonnage. Where the type of locomotive or track conditions enter the picture means of correction may be found. At this time traffic must be and is being speeded up, and the main-tracker is and will be an important contributing factor.

Charles Donnelly Dies

(*Continued from page 377*)

present time it comprises only 56 per cent of the total capitalization. The company has earned its fixed charges in every year except 1932 and 1938. It has serviced its debt throughout the depression without difficulty. On December 31, 1938, current assets totaled $28,580,150, and included more than $7,300,000 in cash and equivalent, while current liabilities totaled only $16,155,376.

In common with other railways operating in the northwest, the Northern Pacific has been severely hit in recent years by the series of droughts and resulting crop failures as well as by the decline in building activities, with their effect on the movement of lumber from the Pacific northwest. In 1928, operating revenues totaled $101,272,724; in 1932 they declined to $47,840,176 rising to $57,021,585 in 1938.

Mr. Donnelly was born on November 9, 1869, at Grand Rapids, Wis., and graduated from the Georgetown University School of Law at Washington in 1896. He practiced law in Washington for a number of years, and then began railroad work on September 8, 1903, with the Northern Pacific, as assistant division counsel on the Montana division, with headquarters at Helena, Mont. In January, 1908, he was promoted to assistant general counsel, with headquarters at St. Paul, Minn. In May, 1918, he was again promoted to general solicitor of the Northern Pacific. Shortly thereafter, he was appointed assistant to Judge Payne, head of the law department of the United States Railroad Administration. Because of Judge Payne's illness during the time that Mr. Donnelly was in Washington, the responsibility for the conduct of the affairs of that department devolved largely upon him. Later he was called back to St. Paul by the illness of Thomas Cooper, then vice-president and land commissioner of the Northern Pacific. On October 1, 1918, Mr. Donnelly was elected executive vice-president and assumed charge of corporation affairs for the railway, in addition to taking over Mr. Cooper's duties during the remainder of the period of federal control. He continued in the same capacity for the Northern Pacific after the termination of federal control until his election as president on November 19, 1920.

THE ALGERIAN RAILWAYS by authorization of the Algerian legislature, is planning to purchase 10 new "Micheline" rubber-tired motor rail-cars each year until 1945. They will be of a type now on exhibit in the French building at the New York World's Fair. The present cost of each car is estimated at $65,000.

NEWS

Four Mechanical Groups to Meet

Specialized associations to convene simultaneously in Chicago, Oct. 17-19

The Hotel Sherman, Chicago, will be the headquarters for the meetings of the Car Department Officers' Association, the Railway Fuel and Traveling Engineers' Association, the Master Boiler Makers' Association, and the Locomotive Maintenance Officers' Association (formerly the International Railway General Foremen's Association) to be held October 17, 18 and 19. On Tuesday morning, October 17, the combined memberships of the four associations, under the chairmanship of F. P. Roesch, vice-president, Standard Stoker Company, will be addressed by L. W. Baldwin, chief executive officer, Missouri Pacific Lines, on Training and Coaching Supervision. The members of each association will then proceed from the ballroom to the rooms assigned for their respective sessions, where the following programs will be presented.

Railway Fuel and Traveling Engineers' Association

Tuesday, October 17

Morning Session

Address by John R. Jackson, President.
Appointment of special committees.
What Can Each Member Do To Promote the effectiveness of the Railway Fuel and Traveling Engineers' Association, by E. L. Woodward, western editor, *Railway Mechanical Engineer.*

Afternoon Session

Air Brakes—Chairman, W. H. Davies, superintendent air brakes, Wabash.
Sub-committee on Freight Brakes—Chairman, W. E. Vergan, supervisor air brakes, Missouri-Kansas-Texas.
Sub-committee on Handling of the Engineer's Brake Valve on Passenger Trains—Chairman, J. A. Burke, supervisor air brakes, Atchison, Topeka & Santa Fe.
Stationary Boiler Plants—Various fuel-burning appliances as they affect fuel economy—Chairman, R. S. Twogood, fuel engineer, Southern Pacific.

Wednesday, October 18—Mechanical Day

Morning Session

New Locomotive Economy Devices—Chairman, A. G. Hoppe, assistant mechanical engineer, Chicago, Milwaukee, St. Paul & Pacific.
Address by Lee Robinson, superintendent equipment, Illinois Central.
Address—A Few More Avoidable Factors in Design Affecting Fuel and Locomotive Performance, by F. P. Roesch, vice-president, The Standard Stoker Co.
Grates—Chairman, M. F. Brown, fuel supervisor, Northern Pacific.
Steam Turbine and Steam Condensing Locomotives—Chairman, L. P. Michael, chief mechanical engineer, Chicago & North Western.

Afternoon Session

Utilization of Locomotives—Chairman, A. A. Raymond, superintendent fuel and locomotive performance, New York Central.
Locomotive Firing Practice—Oil—Chairman, R. S. Twogood, fuel engineer, Southern Pacific.
Locomotive Firing Practice—Coal, especially dealing with honeycomb—Chairman, W. C. Shove, general road foreman engines, New York, New Haven & Hartford.

Thursday, October 19—Fuel Day

Morning Session

Fuel Wastes and Losses, by J. G. Crawford, fuel engineer, Chicago, Burlington & Quincy.
Fuel Records and Statistics—Chairman, E. E. Ramey, fuel engineer, Baltimore & Ohio.
Address—Fuel Economy from the Viewpoint of the Divisional Superintendent, by W. A. Hurley, assistant general superintendent, New York, New Haven & Hartford.
Address by George J. Leahy, National Coal Association, and Republic Coal and Coke Company.
Coal—Preparation washed and dried coals, inspection, utilization—Chairman, S. A. Dickson, supervisor fuel, Alton.
Routine business and election of officers.

Master Boiler Makers' Association

Tuesday, October 17

Morning Session

Meeting called to order.
Address by President William N. Moore.
Topic No. 9. Report on Topics for 1940—Chairman, Myron C. France, general boiler foreman, Chicago, St. Paul, Minneapolis & Omaha.
Business.

Afternoon Session

Address by Roy V. Wright, managing editor, *Railway Age.*
Topic No. 4. (Continued from 1938—committee report and individual papers)—Problems created by chemical treatment of locomotive feedwater—Chairman, C. W. Buffington, general master boiler maker, Chesapeake & Ohio.
The Causes and Prevention of Embrittlement in Locomotive Boilers—A lecture with motion pictures, by Dr. W. C. Schroeder, senior chemical engineer, United States Department of Interior, Bureau of Mines.
Report of Special Committee appointed at 1938 meeting.
Routine business.

Wednesday, October 18

Morning Session

Routine business.
Address by D. S. Ellis, chief mechanical officer, Chesapeake & Ohio.
Topic No. 1. Training apprentices to be better mechanics—Chairman, A. T. Hunter, assistant general boiler inspector, Atchison, Topeka & Santa Fe.
Apprenticeship—A paper by M. M. Hanson, principal field representative, Industrial Commission, Madison, Wis.
Report of the Executive Committee—Chairman, Carl A. Harper, general boiler inspector, Cleveland, Cincinnati, Chicago & St. Louis.
Report of Secretary-Treasurer Albert F. Stiglmeier.
Routine business.

Afternoon Session

Address by F. K. Mitchell, assistant superintendent of equipment, Cleveland, Cincinnati, Chicago & St. Louis.
Topic No. 3. (Continued from 1938)—improving circulation in the locomotive boiler—Chairman, Carl A Harper, general boiler inspector, C. C. C. & St. L.
Motion pictures of circulation of water in boiler.
Topic No. 5. Marking water level and highest point of crown sheet on the boilerhead—Chairman, E. H. Gilley, general boiler foreman, Grand Trunk.
Routine business.

Thursday, October 19

Morning Session

Routine business.
Address by J. M. Hall, chief locomotive inspector, Bureau of Locomotive Inspection, Interstate Commerce Commission.
Topic No. 2. Welded alloy-steel tender tanks—Chairman, Leonard C. Ruber, superintendent

(*Continued on page 385*)

Big Pay For Not Workin' on the RR

Saturday Post suggests that rr. labor peace is actually high-priced "appeasement"

If the millions of readers who saw the September 9 issue of the "Saturday Evening Post" held the popular conception of the fine pacifism of the relations between the railroads and their organized employees, that notion received a serious challenge in an article therein entitled "Peace on the Rails," by Garet Garrett, noted analyst of business and political questions. The writer dispels this popular fancy by analyzing the record of the Railroad Adjustment Boards, whose apparent job, he insists, "is to put fat on the payroll."

The labor unions naturally like the machinery of the adjustment boards, according to the article, because "it perfects and implements their monopoly." The unions activities are controlled by two ideas, as Mr. Garrett sees it: "One is to make work and defend jobs in a shrinking industry; the other is that those who by right of seniority survive in this employment are entitled to all that they can get." The success of these policies is reflected in the following figures: in 1916 there were 1,600,000 railroad employees; in 1938 there were only 900,000; yet in 1938 the total payroll was $294,000,000 more than in 1916. As Mr. Garrett succinctly states it, "Comparing 1938 with 1916, 700,000 fewer workers received $294,000,000 more wages."

While most of this increase in average pay per worker is due to a rise in basic wage rates, a large part represents "a fattening of the payroll by imaginary work or . . . . penalty wages charged for unperformed work as if it had taken place." And for a great measure of this "fattening", the article points the finger at the adjustment boards.

The latter are described as "a bipartisan court in two equal and opposite parts" which causes justice to "stop on a dead center". Since, when members deadlock on issues, they also deadlock on referees, the National Mediation Board picks a man, which "suits the labor members perfectly . . . . [since] . . . . "so long as the government is pro-labor, the National Mediation Board will send a liberal referee."

Of such gentlemen, the article speaks as follows: "It is a nice job, paying $75 a day and expenses, and, of course, the referee is anxious to please, so that he may be called again. If he turns out to be not

liberal enough, the labor members can make it so unpleasant for him that he will retire, or so disagreeable for the National Mediation Board at Washington that it will never send him again. One referee, and a liberal who had thought of himself and had been thought of by others as a friend of labor, walked out in anger and resigned, saying in his letter to the National Mediation Board that the 'abuse and obstructive tactics of the labor members' made it impossible for him to 'continue to submit to an attitude which is lacking in ordinary decency as well as in a sense of justice.' That was what the labor members wanted. They got another referee, more to their liking."

The boards comprise a "fantastic court", according to the article. The petitioner or claimant is always labor. No witnesses are called; no oaths are administered; no transcript of the oral hearing is permitted. Deadlocked cases are placed before a referee, "to whom the railroad vernacular is a strange tongue", who, should he sustain a claim in one case (unimportant alone), sets a precedent for thousands similar which will cost the railroads unknown sums. Furthermore "publicity is taboo". [Here the author describes the furor in Chicago last June when newspaper reporters sat in on an adjustment board case considering claims against the Santa Fe, as reported in the *Railway Age* of July 8, page 83.—Ed.] Lastly, there is no appeal from these board decisions in a court of law.

After describing in full the complications of working agreements between the carriers and the operating employees, Mr. Garrett reviews scores of actual adjustment board cases and the decisions rendered thereto, identifying them by number, but withholding names of parties involved. These he divides into two main classes—discipline cases involving re-instatement of employees and the more important "wages-for-time-not-worked" cases. Under the first head, he describes a number of cases involving intoxicated employees—, all of whom were ordered re-instated and some given back pay during the period of discharge for violation of Rule G. The famous "half-drunk-half-pay case" comes up for scrutiny. Other disciplinary cases involving improper flagging and collisions, in which the boards ordered re-instatement in spite of admitted guilt, are also cited.

More attention is given to the "back-pay" cases. In this connection, the author takes pains to point out the degree to which the five over-lapping train-service unions resort to records of "what they have been able to get out of the National Railroad Adjustment Board for their members" in drives for membership. He then cites one by one the more dramatic cases concerning back-pay for switching by train crews and penalty pay for yard-crews whose shifts are discontinued and those arising from alleged violations of starting-time rules. In many cases, the road and location are mentioned and in all citations, enough material is presented to make the background clear to lay readers.

And having described thus "the model peace", Mr. Garrett closes laconically with "And there it is."

Agreed Charge Upheld

Canada's most important "agreed charge" so far (that between the railroads and the big petroleum companies in Ontario) has been approved by the Dominion Transport Commission. Last week it was reported herein that one of the minor oil companies in Ontario had protested this agreement, asking the Transport Commission to forbid it—but the Commission refused to do so. The oil companies are bound, under this arrangement, to discontinue the use of highway tanks of greater than 1200-gal. capacity, except for hauls less than 25 miles.

N. Y. Railroad Club to Change Meeting Date

The New York Railroad Club will change its meeting date from the third Friday of each month to the third Thursday, beginning with the October meeting and running through until the end of May. The annual dinner as usual will be held December 7, the first Thursday of the month.

Pacific Northwest Board Meeting

The forty-third regular meeting of the Pacific Northwest Advisory Board will be held at Spokane, Wash. on September 13. Charles Donley, president of the National Association of Advisory Boards will speak at the meeting, while Judge Robert S. MacFarlane, western counsel of the Northern Pacific will discuss Transportation Trends at a joint luncheon with the Spokane Chamber of Commerce and Spokane Transportation Club.

Allegheny Advisory Board to Meet September 13

The Allegheny Regional Advisory Board will hold its Fall meeting on September 13 at the Fort Stanwix Hotel, Johnstown, Pa. J. D. Battle, executive secretary of the National Coal Association, Washington, D. C., will be the principal speaker. His subject is as yet unannounced. The principal discussions to concern the meeting will be reports from the committees on dunnage in closed cars and open top cars respectively, and of the classification committee on the proposal to change the length of the standard box car from 36 to 40 ft.

I. C. C. Affirms Motor Carrier Insurance Rule

Rule VIII of the Interstate Commerce Commission's motor carrier insurance regulations, requiring that insurance companies be legally authorized to transact business in each state in which their policies cover the operations of an insured motor carrier, has been affirmed by the commission's Division 5 in a report on further hearing in the Ex Parte MC-5 proceeding dealing with security for the protection of the public. The commission examined various proposals for a modification of the requirement which had been submitted by interested parties; but it came to the conclusion that no satisfactory substitute for Rule VIII had been suggested.

With reference to requests that it make a study of motor carrier insurance costs, the commission took the proposal under advisement with a view to having its Bureau of Motor Carriers explore the matter for the purpose of determining "whether such a study might be made by us with reasonable expectation of success."

Would O.K. Florida-Baltimore Water Rates on Citrus Fruit

United States Maritime Commission Examiner A. L. Lansdale has recommended in a proposed report a finding by that commission that rates and practices of common carriers by water in connection with the transportation of citrus fruit from Florida ports to Baltimore, Md., are not unreasonable or otherwise unlawful. This is the proceeding heard jointly with the Interstate Commerce Commission case out of which has come I. C. C. Examiner H. W. Archer's proposed report recommending a finding that present all-rail rates on the traffic involved are as low as should be maintained and that such all-rail rates should continue to be not less than 5.6 cents per 100 lb. higher than rates over competing truck-water routes. The Archer proposed report was reviewed in the *Railway Age* of August 26, page 319.

RR's and Marketing Forum Subject at N. E. Advisory Board Meeting

The New England Shippers Advisory Board will hold its 30th regular meeting at the Hotel Vermont, Burlington, Vt., September 14 and 15. The speaker at the banquet on September 14 will be Joseph B. Eastman, chairman, Interstate Commerce Commission.

At the regular board meeting the following day, in addition to regular committee reports there will be a report of a special emergency committee appointed to study the problem of preserving railroad transportation in the territory. There will also be a group of addresses as follows: "The Cost of Subsidized Transportation to the Vermont Farmer," by R. S. Henry, assistant to the president, Association of American Railroads; "What Has Vermont to Sell Besides Vacations?" by W. H. Wills, lieutenant-governor, state of Vermont; "Chemurgic Developments in Vermont and What Aid Will They Be to Transportation," by Joseph Winterbotham, chairman, Industrial-Agricultural Products Commission, state of Vermont.

There will also be an open forum which will consider the question "Have the Railroads Taken Full Advantage of Their Opportunities to Familiarize Themselves with the Marketing Problems of the Industries They Serve to Develop Whether or Not Anything Can Be Done Along Transportation Lines to Increase Production to the Mutual Advantage of the Buyers and Sellers of Transportation?"

Freight Car Loadings

Carloading reports were so delayed by the Labor Day holiday that the Association of American Railroads was unable to announce the total for the week ended

September 2 by the time this issue went to press.

As reported in last week's issue, the loadings for the previous week ended August 26, totaled 688,591 cars, and the summary for that week, as compiled by the Car Service Division, A. A. R., follows:

Revenue Freight Car Loadings

For Week Ended Saturday, August 26

Districts	1939	1938	1937
Eastern	137,915	120,563	152,554
Allegheny	132,407	110,986	155,611
Pocahontas	53,783	46,201	53,416
Southern	95,548	91,650	102,393
Northwestern	115,884	97,993	142,025
Central Western	106,149	105,385	119,094
Southwestern	46,905	47,779	58,383
Total Western Roads	268,938	251,157	319,502
Total All Roads	688,591	620,557	783,476
Commodities			
Grain and grain products	43,604	45,387	40,638
Live stock	13,061	13,789	13,979
Coal	123,893	104,397	128,106
Coke	6,968	4,767	9,762
Forest products	31,953	30,884	38,243
Ore	49,743	25,517	72,906
Merchandise l.c.l.	154,170	151,000	169,524
Miscellaneous	265,199	244,816	310,318
August 26	688,591	620,557	783,476
August 19	674,237	597,884	777,150
August 12	665,197	589,568	773,782
August 5	661,136	584,062	766,182
July 29	659,764	588,697	779,091
Cumulative Totals, 34 Weeks	20,581,309	18,895,644	25,132,668

In Canada.—Carloadings for the week ended August 26 rose to 54,384 cars compared with 49,230 cars for the previous week and 53,363 cars for the corresponding week last year, according to the summary by the Dominion Bureau of Statistics.

	Total Cars Loaded	Total Cars Rec'd from Connections
Total for Canada:		
August 26, 1939	54,384	19,469
August 19, 1939	49,230	18,480
August 12, 1939	44,054	18,904
August 27, 1938	53,363	17,635
Cumulative Totals for Canada:		
August 26, 1939	1,492,274	730,562
August 27, 1938	1,499,038	684,256
August 28, 1937	1,646,295	917,216

Asks Protection for Individual Holders of Prior Lien Bonds

A request for "special care and guardianship" by the Interstate Commerce Commission of individual holders of important underlying bonds whose interests are being made subordinate to those of large insurance companies is contained in a letter sent last week to Chairman Joseph B. Eastman by F. J. Lisman, a New York railroad securities authority. Speaking specifically of the action of the Commission in allocating income bonds to holders of Rio Grande Junction first mortgage bonds of 1939 under the proposed Denver & Rio Grande Western reorganization plan, the writer declares that "while absolutely certain that it is not the intention of the I. C. C. to destroy railroad credit," such action "definitely is more than a step—it is a leap in that direction."

He points out that no interest has been paid on the issue for some years, although it has been earned fully three times, on the average. It is his opinion that the Rio Grande Junction line makes it possible for the D. & R. G. W. to operate as a through road and that, without it, "the Denver & Salt Lake would be of no use." He contends further that were the mortgage covering the bonds enforcible, as it was previous to enactment of Section 77, the holders could have enforced their lien and compelled the court to set aside the road's net earnings from which to make interest payments.

In explanation of the failure of Junction holders to receive proper treatment, Mr. Lisman writes that because it is difficult to get adequate support of bondholders for separate holders' committees, the Junction bonds are represented largely by insurance companies who are also interested in the Rio Grande Western and "who are looking after both mortgages." He asks therefore for "guardianship" of individual bondholders of the Rio Grande Junction "who are not at all represented in the situation" and poses the question: "If the first mortgage bonds on an essential division earning several times interest charges can be treated in this way, why should anybody ever again invest money in railroad securities?"

I. C. C. Compilation of Selected Income and Balance Sheet Items for June

The Interstate Commerce Commission on August 31 made public its latest monthly compilation of selected income and balance sheet items, showing June's net deficit of the Class I roads as $1,685,224, and that for this year's first six months as $91,765,684, as reported previously by the Association of American Railroads and noted in the *Railway Age* of August 26. The foregoing compare with a June, 1938, red figure of $15,739,527, and one of $180,021,199 for last year's first half.

Appearing in the compilation for the first time in a footnote which reveals that 101 roads not in receivership or trusteeship re-

SELECTED INCOME AND BALANCE-SHEET ITEMS OF CLASS I STEAM RAILWAYS

Compiled from 135 Reports (Form IBS) Representing 140 Steam Railways

(Switching and Terminal Companies Not Included)

TOTALS FOR THE UNITED STATES (ALL REGIONS)

For the month of June 1939	For the month of June 1938	*Income Items*	For the six months of 1939	For the six months of 1938
$39,095,470	$25,159,525	1. Net railway operating income	$165,262,510	$71,185,510
13,381,355	12,740,083	2. Other income	66,230,651	68,560,612
52,476,825	37,899,608	3. Total income	231,493,161	139,746,122
2,044,258	2,021,694	4. Miscellaneous deductions from income	11,828,937	12,283,517
50,432,567	35,877,914	5. Income available for fixed charges	219,664,224	127,462,605
		6. Fixed charges:		
11,487,361	10,534,174	6-01. Rent for leased roads and equipment	67,281,106	62,543,175
39,485,083	39,861,418	6-02. Interest deductions	ø237,268,935	ø237,581,544
132,216	209,275	6-03. Other deductions	798,381	1,280,944
51,104,660	50,604,867	6-04. Total fixed charges	305,348,422	301,405,663
*672,093	*14,726,953	7. Income after fixed charges	*85,684,198	*173,943,058
1,013,131	1,012,574	8. Contingent charges	6,081,486	6,078,141
*1,685,224	*15,739,527	9. Net income	*91,765,684	*180,021,199
16,805,563	16,854,764	10. Depreciation (Way and structures and Equipment)	100,950,760	100,913,542
2,031,959	863,455	11. Federal income taxes	9,563,305	5,400,115
		12. Dividend appropriations:		
1,317,789	1,129,345	12-01. On common stock	27,869,824	33,447,752
672,617	224,565	12-02 On preferred stock	9,446,493	5,480,351

Selected Asset Items	Balance at end of June 1939	Balance at end of June 1938
13. Investments in stocks, bonds, etc., other than those of affiliated companies (Total, Account 707)	$637,650,612	$654,846,627
14. Cash	430,302,330	314,771,436
15. Demand loans and deposits	15,818,855	7,796,776
16. Time drafts and deposits	20,838,102	17,309,665
17. Special deposits	71,212,040	65,979,262
18. Loans and bills receivable	1,498,419	2,441,519
19. Traffic and car-service balances receivable	54,427,169	50,475,282
20. Net balance receivable from agents and conductors	46,674,290	41,184,551
21. Miscellaneous accounts receivable	121,414,054	130,068,177
22. Materials and supplies	318,849,539	355,255,297
23. Interest and dividends receivable	17,934,565	22,565,244
24. Rents receivable	1,271,888	1,555,473
25. Other current assets	6,228,836	4,989,944
26. Total current assets (items 14 to 25)	$1,106,470,087	$1,014,392,626

Selected Liability Items	Balance at end of June 1939	Balance at end of June 1938
27. Funded debt maturing within 6 months†	$188,742,004	$220,344,495
28. Loans and bills payable‡	245,563,553	250,982,938
29. Traffic and car-service balances payable	76,117,565	68,685,392
30. Audited accounts and wages payable	223,387,641	220,439,060
31. Miscellaneous accounts payable	72,045,489	72,522,747
32. Interest matured unpaid	906,729,835	755,026,908
33. Dividends matured unpaid	9,390,964	7,506,535
34. Funded debt matured unpaid	683,233,696	525,866,816
35. Unmatured dividends declared	4,293,297	769,652
36. Unmatured interest accrued	81,025,675	83,780,950
37. Unmatured rents accrued	26,106,733	23,537,560
38. Other current liabilities	28,915,356	24,878,023
39. Total current liabilities (items 28 to 38)	$2,356,809,804	$2,033,996,581
40. Tax liability (Account 771):		
40-01. U. S. Government taxes	$54,352,648	$57,545,769
40-02. Other than U. S. Government taxes	156,543,173	149,815,551

ø Represents accruals, including the amount in default.
† Includes payments which will become due on account of principal of long-term debt (other than that in Account 764, Funded debt matured unpaid) within six months after close of month of report.
‡ Includes obligations which mature not more than 2 years after date of issue.
* Deficit or other reverse items.

NET INCOME OF LARGE STEAM RAILWAYS WITH ANNUAL OPERATING REVENUES ABOVE $25,000,000

(Switching and Terminal Companies Not Included)

Name of railway	Net income after deprec. For the six months of 1939	Net income after deprec. For the six months of 1938	Net income before deprec. For the six months of 1939	Net income before deprec. For the six months of 1938
Alton R. R.	* $969,034	*$1,257,434	* $840,717	*$1,082,648
Atchison, Topeka & Santa Fe Ry. Systemø	* 3,137,210	* 2,968,286	2,774,958	2,988,957
Atlantic Coast Line R. R.	84,757	371,997	1,133,122	1,401,463
Baltimore & Ohio R. R.	* 6,346,753	*11,741,308	* 2,756,391	* 8,082,872
Boston & Maine R. R.	* 647,353	* 2,634,148	129,690	* 1,826,136
Central of Georgia Ry.†	* 1,479,852	* 1,754,353	* 1,053,897	* 1,326,521
Central R. R. of New Jersey	* 2,124,708	* 1,846,435	* 1,424,151	* 1,138,231
Chesapeake & Ohio Ry.	5,958,114	5,729,462	10,084,864	9,882,529
Chicago & Eastern Illinois Ry.‡	* 1,035,369	* 1,210,112	* 738,409	* 907,056
Chicago & North Western Ry.‡	* 9,279,936	*11,143,611	* 6,803,741	* 8,608,099
Chicago, Burlington & Quincy R. R.	* 1,957,978	* 3,235,581	647,044	* 709,595
Chicago Great Western R. R.‡	* 547,576	* 1,316,563	* 278,784	* 1,047,771
Chicago, Milwaukee, St. Paul & Pacific R. R.‡	*11,298,024	*12,140,063	* 8,405,259	* 9,277,800
Chicago, Rock Island & Pacific Ry.‡ ⁋	* 6,034,341	* 8,239,863	* 3,981,807	* 6,140,934
Chicago, St. Paul, Minneapolis & Omaha Ry.	* 1,947,064	* 1,672,100	* 1,656,840	* 1,377,741
Delaware & Hudson R. R.	489,395	* 746,244	996,939	* 222,285
Delaware, Lackawanna & Western R. R.	* 852,976	* 2,172,745	366,765	* 935,693
Denver & Rio Grande Western R. R.‡	* 3,369,317	* 3,999,124	* 2,764,888	* 3,387,803
Elgin, Joliet & Eastern Ry.	552,258	* 555,296	1,031,031	* 53,917
Erie R. R. (including Chicago & Erie R. R.)§	* 2,646,820	* 7,358,376	* 808,806	* 5,479,894
Grand Trunk Western R. R.	* 1,539,341	* 3,218,930	* 957,236	* 2,654,291
Great Northern Ry.	* 3,394,082	* 7,088,655	* 1,547,743	* 5,235,895
Illinois Central R. R.	* 1,548,312	* 1,930,816	1,750,896	1,313,786
Lehigh Valley R. R.	* 510,203	* 2,251,129	548,849	* 1,161,465
Long Island R. R.	* 1,395,084	* 1,324,571	* 806,628	* 736,412
Louisville & Nashville R. R.	1,372,551	* 1,125,303	3,538,687	1,037,493
Minneapolis, St. Paul & Sault Ste. Marie Ry.‡	* 4,035,053	* 3,874,359	* 3,425,561	* 3,259,400
Missouri-Kansas-Texas Lines	* 2,207,118	* 2,681,567	* 1,538,859	* 2,020,932
Missouri Pacific R. R.‡	* 8,551,939	* 9,667,125	* 6,372,568	* 7,476,572
New York Central R. R.¶	* 9,079,066	*17,548,397	* 1,156,479	* 9,509,176
New York, Chicago & St. Louis R. R.	* 121,945	* 1,884,421	663,264	* 1,028,720
New York, New Haven & Hartford R. R.‡	* 2,775,776	* 6,808,923	* 1,084,953	* 5,115,877
Norfolk & Western Ry.	8,680,572	4,800,071	11,195,599	7,292,204
Northern Pacific Ry.	* 5,036,650	* 6,897,282	* 3,344,947	* 5,202,143
Pennsylvania R. R.	3,174,469	* 3,464,555	16,343,837	9,123,683
Pere Marquette Ry.	* 656,176	* 2,212,433	528,058	* 1,012,003
Pittsburgh & Lake Erie R. R.	511,604	234,457	1,633,041	1,357,657
Reading Co.	1,416,261	357,332	2,971,695	1,925,819
St. Louis-San Francisco Ry.‡	* 5,863,837	* 7,107,358	* 4,326,576	* 5,545,004
St. Louis Southwestern Lines‡	* 1,197,753	* 934,322	* 888,691	* 623,316
Seaboard Air Line Ry.†	* 2,926,703	* 3,529,177	* 1,851,103	* 2,509,129
Southern Ry.	45,865	* 3,862,642	1,769,444	* 2,328,466
Southern Pacific Transportation System‖	* 3,046,386	*11,773,825	893,830	* 7,627,618
Texas & Pacific Ry.	* 40,746	166,118	559,842	763,441
Union Pacific R. R. (including leased lines)	2,936,535	2,151,373	6,657,065	5,806,409
Wabash Ry.†	* 3,152,774	* 4,301,531	* 2,079,954	* 3,225,735
Yazoo & Mississippi Valley R. R.	* 420,519	* 344,863	* 187,190	* 76,096

* Deficit.
† Report of receiver or receivers.
‡ Report of trustee or trustees.
§ Under trusteeship, Erie R. R. only.
⁋ Includes Chicago, Rock Island & Gulf Railway beginning with June, 1939.
ø Includes Atchison, Topeka & Santa Fe Ry., Gulf, Colorado & Santa Fe Ry., and Panhandle & Santa Fe Ry.
¶ Includes Boston & Albany, lessor to New York Central R. R.
‖ Includes Southern Pacific Company, Texas & New Orleans R. R., and leased lines. The report contains the following information: "Figures reported for Southern Pacific Transportation System exclude offsetting debits and credits for rent for leased roads and equipment, and bond interest, between companies included therein. Operations for 1939 of separately operated solely controlled affiliated companies (not included in above statement), resulted in a net deficit of $453,358 for the month and $3,282,296 for the period. These results include $211,172 for the month and $1,267,032 for the period, representing interest on bonds of such companies owned by Southern Pacific Company not taken into income and, therefore, not included in the 1939 income results for the System reported above. The combined results for 1939 for Southern Pacific Transportation System and separately operated solely controlled affiliated companies for the month amounted to a net income of $1,525,658 and for the period a net deficit of $5,061,649."

ported a composite net income of $10,706,084 for June as compared with a net deficit of $90,263 in June of last year. The net deficit of these 101 roads for this year's first half was $18,511,093; for the comparable 1938 period they reported a composite red figure of $83,754,294.

Eighty five roads reported net deficits for June, while 47 reported net incomes; in June, 1938, there were 95 net deficits and 37 net incomes. For this year's first half 83 roads reported deficits and 49 net incomes; comparable 1938 figures were, respectively, 102 net deficits and 30 net incomes. The consolidated statement and that showing the net incomes or deficits of roads having operating revenues above $25,000,000 are given in the accompanying tables.

National Railway Fans' Day at the N. Y. World's Fair

A backstage inspection tour of "Railroads on Parade," the opera-pageant presented by the Eastern roads at the New York World's Fair, appearance in the show itself and luncheon served on the pageant grounds will feature "National Railway Fans' Day," to be held September 17. The blanket charge of $1.50 will cover all activities, including the pageant, "Railroads at Work," luncheon and souvenirs. The program is administered by a joint committee of the Railway & Locomotive Historical Society, Railroad Enthusiasts, Inc., and the National Railway Historical Society.

Machine Tool Show Cancelled

In view of the outbreak of the war in Europe, the members of the National Machine Tool Builders' Association have decided to postpone indefinitely the Machine Tool Show which was to have been held at Cleveland, Ohio, on October 4 to 13. This also involves the postponement of the Machine Tool Congress, a series of meetings sponsored by a group of nine engineering and technical societies and which were to have been held during the Machine Tool Show.

Wendell E. Whipp, president of the association, in making the announcement, said: "The members of the association feel that the greatest contribution the industry can make to the welfare of the nation at this time is to concentrate their entire efforts on the production of the greatest possible number of machine tools. Under the circumstances, the industry and its customers cannot afford the time of its key men for a machine tool show. Postponement is felt to be the wisest course."

Fair Brings Bustle to N. Y.'s Passenger Terminals Over Labor Day

Preliminary "educated guesses" by passenger men of roads entering New York city indicate that while so-called out-bound traffic over the Labor Day week-end was "about the same" or a "little better" than that of last year, the inbound traffic of those roads enjoying long-haul patronage showed a large gain over the previous year. This record influx of passengers into the metropolis for the week-end period is attributed to the World's Fair, which enjoyed a record-breaking week-end of over 1,000,000 paid admissions. Sunday, September 3, was the biggest day of any this year, when nearly a half-million cash customers passed through the turnstiles. On the same day the Long Island broke all records by carrying 228,000 passengers on its shuttle route between Pennsylvania station and the fair site.

The larger roads which reach out far enough to capture long-haul fair business report an excellent Labor Day traffic. The New York Central reports an increase of about 15 per cent in the number of passengers over last year, attributing the increase to inbound fair patronage. Out-bound traffic was about the same as last year. Out-of-towners leaving the city were especially heavy the evening of Labor Day proper. From Friday to Tuesday the road operated about 140 extra trains in and out of the city. In addition to holiday business the road also carried more than 12,000 home-bound campers on Friday and Saturday.

The Pennsylvania also estimates a 15 per cent improvement over last year. It operated close to 200 extra trains on the New York division. Inbound and out-bound volume was about the same. In short, "a good year all around." The Baltimore & Ohio is especially enthusiastic about the week-end business, reporting it to be "about double" that of last year, due principally to special fair parties. Monday proved to be the busiest day of the period. The New York, New Haven & Hartford enjoyed a substantial increase in out-bound business to New England and a sharp rise in city-bound volume. Figures are not available for the entire week-end period, but it is reported that Friday's business was 39 per cent over the corresponding Friday of 1938, and out-bound business on Monday showed a 40 per cent increase.

The Erie enjoyed a 10 to 15 per cent increase over last year, due principally to special fair parties and increased patronage of its special excursion to Niagara Falls,

N. Y. The Lehigh Valley did "a much better" business than last year, running its Black Diamond in three sections on Monday. Its Niagara Falls excursion traffic also showed a large gain. The Central of New Jersey, being a short-haul line, did not share in the fair business. Since the seashore resorts had a "rotten" season, the road's all-rail passenger traffic over the week-end fell about 5 per cent under last year, while the Sandy Hook boat route "just about held its own." The New York, Ontario & Western also found the resort business along its line in New York state sluggish and found that "going-away" traffic was lighter than last year, while inbound business was just about the same.

The Delaware, Lackawanna & Western reports a decrease of about 10 per cent as compared with last year's traffic.

Substitute Service on St. Louis Southwestern

The St. Louis Southwestern has asked the Interstate Commerce Commission to rescind a requirement whereby that road would be called upon to file an application for authority to act as a common carrier by motor vehicle to cover situations wherein it substitutes motor vehicle service for rail service. The requirement was a part of the commission's recent decision (see *Railway Age* of August 19, page 292) holding that special permissions and tariff rules authorizing the substitution of motor vehicle service for rail or water service and of rail or water service for motor vehicle service are in contravention of the certificate and tariff provisions of the Motor Carrier Act and should not be renewed when they expire.

In that decision the commission said that "The Eastern rail carriers and the St. Louis Southwestern or their participating carriers should file within 30 days from the service of this report appropriate applications for authority to act as common carriers by motor vehicle in this substituted service. . . ." Suggesting that the commission might not have been fully advised as to its situation the Cotton Belt petition asks for further hearing in order that it may show that its situation is no different from other Southern and Western roads, and that the only substitution service it uses is that of its wholly-owned subsidiary, the Southwestern Transportation Company, which has proper common carrier authority. "Compelling your petitioners to engage in the motor transportation business itself, or to cease the practice that has been carried on with at least tacit approval by this commission for the past 10 years," the petition goes on, "is in effect depriving them and the Southwestern Transportation Company of valuable rights under the 'grandfather' section of the Motor Carrier Act without due process of law." Its substitute-service arrangements, the Cotton Belt says in another section of the petition, have produced savings of "over $400,000" a year and improved service to the public.

Retirement Board Activities

A total of 16,707 certifications for benefit payments were made in the regional offices of the Railroad Retirement Board in the week ended August 25, according to the Board's "Weekly Review" for September 2. The amount of payments certified was $256,283 or an average of $15.34 per certification. In the same week 27,688 claims were received in the regional offices and 4,280 certificates of benefit right issued.

From the beginning of operation through August 25, the "Review" continues, a total of 95,479 workers have taken the first step in applying for railroad unemployment insurance benefits by filing applications for certificates of benefit rights. Such certificates, indicating that the individuals are eligible for benefits on the basis of their credited railroad compensation for 1938 have been issued to all but 4,044 of the applicants. The wage records of most of these 4,044 workers are still in the process of investigation. Of the workers who have been found eligible for benefits by virtue of their credited compensation in 1938, 68,398 have remained unemployed long enough to serve the waiting period required by law. A substantial proportion of this group have been unemployed after completing their waiting period; their claims have been certified for over 73,000 benefit payments amounting to about $1,100,000.

The number of applications for certificates of benefit rights received in the week ended August 25 was 4,764, considerably in excess of the number of such applications received in either of the two preceding weeks, says the Board publication. Prior to the week of August 25, the number of applications received declined steadily from week to week. An examination of the figures by regions indicates, it continues, that the large increases occurred only in the Boston and New York regions. Smaller increases in the number of applications were reported also from the Cleveland and Minneapolis regional offices.

The Board, on August 24, approved and adopted the opinion of its general counsel holding that the National Carloading Corporation has been an "employer" within the meaning of sections 1 (a) of the Railroad Retirement and the Railroad Unemployment Insurance Acts from August 28, 1935 to date, as a company indirectly owned by one or more "carriers" and operating facilities and performing services in connection with transportation of property by railroad. The Board has also adopted the same holding for the Universal Carloading and Distributing Company, Inc.

Another decision was adopted which holds that service for National is creditable toward annuities from October 22, 1931; and that service with Universal is creditable from December 5, 1925 to at least June 15, 1939. The Board also adopted the opinion of the general counsel recommending that the question of whether Universal has been under "carrier" control since June 15, 1939 be determined after hearing. The latter action is deemed necessary due to the fact that the stock whereby the New York Central controlled Universal, has been trusteed with former Interstate Commerce Commissioner Balthasar H. Meyer, as reported in the *Railway Age* for July 22, page 155.

The Board, on August 22, transferred to the Bureau of Employment and Claims the function of planning, directing, supervising and carrying out the project of assembling and compiling records of the service and compensation, prior to January 1, 1937, of employees under the Railroad Retirement Acts. This is the project which was originally begun by the Board in cooperation with the Works Projects Administration but later discontinued due to administrative difficulties.

Railroads Could Handle 45 Per Cent Traffic Increase, Says Pelley

"The railroads can handle at least 25 per cent more traffic than they are now handling, and by repairing approximately 200,000 freight cars and 8,000 locomotives now awaiting repairs and not required for present traffic, they could handle 45 per cent more than the present business," J. J. Pelley, president of the Association of American Railroads said in a September 6 statement issued "in response to inquiries from newspaper correspondents received as a result of reports which appeared in certain newspapers to the effect that the railroads of this country would have difficulty in handling a marked increase in freight traffic."

The A. A. R. president went on from the above-mentioned reference to the backlog of cars awaiting repairs to assert that "if and as additional equipment is required it can be had, and the railroads can and will keep ahead of any demands that may be made upon them."

"These conclusions," he added, "are the result of a very careful study made several months ago. It is a fact that there has been a great reduction in the amount of equipment owned. It is also a fact that there has been a great increase in the efficiency of movement. For example, the average speed of freight trains between terminals is now 61 per cent greater than in 1920 and the tons handled per train-hour, which is the real measure of work, have increased 106 per cent since 1920. It is conservatively estimated that the traffic of 1929, the largest in history, could now be handled efficiently with from 350 to 400 thousand cars less than were owned at that time."

A few days earlier Mr. Pelley had told newspaperman covering the White House that the railroad industry was ready for any emergency developing from the present crisis. "We are," he said, "watching the situation closely and are ready for anything that happens." Mr. Pelley was at the White House for a visit with one of the President's secretaries; he did not see the President.

Meanwhile on September 3, the Car Service Division of the A. A. R. had issued Special Car Order No. 38, designed to expedite the return to home roads of specified series of steel box cars owned by the Great Northern, Northern Pacific, Southern Pacific and Union Pacific. Car Service Division officers, estimating that from 12,000 to 15,000 cars are affected, gave an "absolutely not" answer to an inquiry as to whether the order indicated conditions of car shortage. They described it as a "precautionary measure"—a "special action"—designed to build up the car supply to take care of heavy increases in car re-

quirements in the far west where loadings of fruits and sugar are now "pretty heavy."

The order explains the necessity for the "special handling" which it directs on the basis of "geographical location of owners and emergency orders for food commodities." In the former connection, a Car Service Division officer pointed out, the four roads to whose cars the order applies are not lines which reach Chicago or the Missouri River crossings, and thus they normally experience more delay in balancing their equipment than is the case with Western roads connecting at Chicago or St. Louis with the Eastern lines. It is further pointed out that the order does not prohibit loading of the cars involved to their home lines, although it does prohibit intermediate loading. This provision of the order reads as follows: "Cars may be loaded to destinations on or via owners' rails, but must not be delayed or backhauled to obtain such loading."

Four Mechanical Groups to Meet

(*Continued from page 380*)

boiler department, Baldwin Locomotive Works.
Topic No. 6. Longitudinal cracking of flues in service—Chairman, E. E. Owens, general boiler inspector, Union Pacific.

Afternoon Session

Routine business.
Topic No. 7. Standardizing the inspection, testing and cleaning of locomotive air reservoirs—Chairman, L. R. Haase, district boiler inspector, Baltimore & Ohio.
Topic No. 8. Renewing fireboxes—Laying out, fabrication, and application—Chairman, F. A. Longo, welding and boiler supervisor, Southern Pacific.
Election of officers.
Closing business.
Adjournment.

Car Department Officers' Association

Tuesday, October 17

Morning Session

Meeting called to order.
Approval of minutes of last annual meeting.
Address by President C. J. Nelson.

Afternoon Session

Address by D. J. Sheehan, superintendent motive power, Chicago & Eastern Illinois.
Report of Membership Committee—Chairman J. S. Acworth, supervisor of equipment, General American Transportation Corporation.
Report of Secretary-Treasurer F. L. Kartheiser.
Unfinished business.
New business.
Address by E. L. Woodward, western editor, *Railway Mechanical Engineer* and chairman of Publicity Committee.

Wednesday, October 18

Morning Session

Freight and Passenger-Car Construction—Chairman, J. McMullen, superintendent car department, Erie.
Address by C. H. Dietrich, executive vice-chairman, Freight Claim Division, Association of American Railroads.
Shop Operation, Facilities and Tools—Chairman, J. A. Deppe, superintendent car department, Chicago, Milwaukee, St. Paul & Pacific.
Passenger-Train Car Terminal Handling—Chairman, G. R. Andersen, district master car builder, Chicago & North Western.

Afternoon Session

Lubricants and Lubrication—Chairman, J. R. Brooks, supervisor Lubrication and supplies, Chesapeake & Ohio.
Freight-Car Inspection and Preparation for Commodity Loading—Chairman, F. G. Moody, master car builder, Northern Pacific.
Interchange—Chairman, M. E. Fitzgerald, master car builder, Chicago & Eastern Illinois.
Loading Rules—Chairman, H. H. Golden, supervisor A. A. R. Interchange and Accounting, Louisville & Nashville.

Thursday, October 19

Morning Session

Address by Leroy Kramer, vice-president, General American Transportation Corporation.
Billing for Car Repairs—Chairman, D. E. Bell, A. A. R. Instructor, Canadian National Railways.
Painting—Chairman, L. B. Jenson, passenger shop superintendent, Chicago, Milwaukee, St. Paul & Pacific.

Afternoon Session

Nominating Committee—Chairman, J. E. Keegan, chief car inspector, Pennsylvania.
Election of officers.
Suggestions for good of the association.
Adjournment.

Locomotive Maintenance Officers' Association

Tuesday, October 17

Afternoon Session

Report of President F. B. Downey outlining scope and purpose of locomotive Maintenance Officers' Association.
Report of Secretary-Treasurer F. T. James on past record of old association and status of new association.
Proper Maintenance of Modern Locomotives—Address by D. S. Ellis, chief mechanical officer, Chesapeake & Ohio.
Roundhouse Problems Caused by Long Runs, by F. J. Fahey, master mechanic, New York Central.

Wednesday, October 18

Morning Session

Training of Apprentices—Address by A. H. Williams, general supervisor of apprentice training, Canadian National Railways.
Forging and Heat Treating Locomotive Parts, by L. B. Herfurth, forging supervisor, Missouri Pacific.

Afternoon Session

Failure of Locomotive Parts and How to Prevent Them—Address by F. H. Williams, assistant test engineer, Canadian National Railways.
Scheduling of Locomotives Through Shops for Classified Repairs, by F. B. Downey, assistant shop superintendent, Chesapeake & Ohio.

Thursday, October 19

Morning Session

What I Expect of My Supervisors and Why—Address by F. E. Lyford, trustee, New York, Ontario & Western.
Best Methods of Selecting Machinery and Tools for Repairs to Modern Locomotives, by R. P. Dollard, shop engineer, Chesapeake & Ohio.

Afternoon Session

Address by Lewis B. Rhodes, president, Allied Railway Supply Association.
Election of officers.

Club Meetings

The Eastern Association of Car Service Officers will hold its regular Fall meeting at the Hotel Governor Clinton, New York, September 28. The possibility of a definite plan of procedure and practice for the reduction of empty car mileage will be given a prominent place on the program. Annual election of officers will be held.

The Toronto Railway Club will hold its next meeting at the Royal York hotel, Toronto, Ont., September 25. H. H. McMullen, inspector, Bureau of Explosives, Association of American Railroads, will speak on "Handling Dangerous Articles in Transportation".

The Southern and Southwestern Railway Club will hold its annual outing and golf tournament September 21 at 10 a.m. in the De Soto hotel, Savannah, Ga.

The Car Department Association of St. Louis will hold its next meeting at the De Soto hotel, St. Louis, Mo., September 19. At that time D. W. Lloyd, district engineer, Westinghouse Air Brake Company, will present a paper entitled "Brakes for Modern Freight and Passenger Train Service." There will be a dinner prior to the meeting.

Supply Trade

R. B. Nichols, sales manager of the **Bantam Bearings Corporation,** South Bend, Ind., a subsidiary of the **Torrington Company,** Torrington, Conn., has also been appointed secretary.

H. H. Simmons, advertising manager of **Crane Company,** Chicago, has been promoted to manager of advertising and sales promotion, to succeed **Russell G. Creviston,** who has been named to a new position, director of trade relations.

Wood Sanford has been appointed sales engineer in the railway division of the **Buda Company** with headquarters at Harvey, Ill. Mr. Sanford's recent connection was with the Chain Belt Company, Milwaukee, Wis., as district sales manager in the North Central Territory.

William A. Ross, vice-president and general manager of sales of the **Columbia Steel Company,** San Francisco, Cal., has been elected president, to succeed **Ambrose N. Diehl,** who has resigned because of

William A. Ross

ill health. Mr. Ross has been connected with the steel industry since 1895, when he entered the employ of the Washburn Moen Manufacturing Company as an office boy. In 1899, this company was acquired by the American Steel & Wire Company, and Mr. Ross served the new firm as bill clerk and cashier. In 1911, the west coast holdings of the American Steel & Wire Company became the Pacific Coast department of the United States Steel Products Company, a subsidiary of the United States Steel Corporation, and upon this consolidation Mr. Ross was appointed assistant treasurer and then assistant to the vice-president of the products company. In 1930, the Columbia Steel Corporation was acquired by the United States Steel Corporation. The Pacific Coast department of the United States Steel Products Company was then consolidated with the new enterprise under the name of the Columbia Steel Company, with Mr. Ross serving as vice-president and treasurer. By 1932, he was appointed vice-president and general manager of sales, which position he has held until his recent election.

Mr. Diehl's retirement closes an active career of forty years' service in the steel

industry. In 1899, he entered the employ of the Carnegie Steel Company as a chemist in the laboratory of the Duquesne works.

A. N. Diehl

After holding various positions, he became assistant general superintendent of the Duquesne works in 1915 and operating vice-president in charge of the Pittsburgh district of the Carnegie Steel Company in 1918. In 1930 he was made vice-president of the United States Steel Corporation, and in 1932, was elected president of the Columbia Steel Company.

TRADE PUBLICATIONS

JOURNAL BOXES.—The Hyatt Bearings division, General Motors Sales Corporation, Harrison, N. J., has issued a 48-page illustrated catalog describing the Hyatt roller-bearing journal box, the Hyatt railroad roller bearing, and Hyatt journal boxes and bearings, Type J, K, and E.

CIRCUIT BREAKERS AND SWITCHGEAR.—The General Electric Company has issued three new bulletins which describe, respectively: Outdoor Oil Blast Circuit Breakers (Bulletin GEA-2426B); Air Circuit Breakers for the protection of resistance welding machines (GEA-2997A); and, Metal-Enclosed Switchgear with draw-out air-circuit breakers for low-voltage feeders (GEA-2596A).

DRASTIC RESTRICTION OF MOTOR TRUCK LICENSES for even "private" operators is embodied in a recent decision of the Greek Minister of Railways & Motor Vehicles which provides that hereafter no truck operating licenses will be issued to commercial concerns and that, for the present, further licenses will be issued only to mining and industrial companies. For several years common carrier operators have been heavily regulated by the ministry not only as to extension of route and expansion of territory, but as well in the limitation of the number and size of their vehicles. For example, licenses for common carrier trucks are at present issued only on a renewal or ton-for-ton replacement basis, which tends to freeze the operations of the industry. Heretofore, licensing requirements for private operators have been much less severe, but the recent decision makes regulation of the two classes of operators virtually identical.

Equipment and Supplies

August Equipment Purchasing Slack

But inquiries for 22 locos; 7,600 fgt. cars and 49 pass. cars may boost Sept. totals

Equipment manufacturers and company shops received domestic orders during August for 5 locomotives (2 steam and 3 Diesel-electric) and 315 freight cars. No passenger-train cars were ordered during the month. Total buying for the year thus far is thereby brought to 161 locomotives and 9,392 freight cars. The passenger-train car total remains at 174 units.

Substantial purchases for the near future are indicated by inquiries issued for or contemplated purchases, to and including September 1, for 22 locomotives (14 steam and 8 Diesel-electric), 7,600 freight cars and 49 passenger-train cars. Of the freight car inquiries outstanding at the close of the month, 3,000 have subsequently been put through as ordered; are so reported in this issue and will be included in totals for September.

The carriers ordered 6,500 tons of rail during August, which brings the total ordered for the year thus far to 532,883 tons.

Domestic Equipment Orders Reported in Issues of the Railway Age in August, 1939 (Including Sept. 2)

LOCOMOTIVES

Date	Name of Company	No.	Type	Builder
Aug. 19	Maine Central	2	Diesel-electric Sw.	American Locomotive Co.
Aug. 19	U. S. Navy Dept.	1	Diesel-electric	Atlas Car & Manu. Co.
Sept. 2	Boston & Maine	2	4-8-2	Baldwin Locomotive Works

FREIGHT CARS

Aug. 5	New York, Chicago & St. Louis	10	Gondola	Pullman-Standard
Aug. 12	American Refrigerator Transit Co.	100	Refrigerator	Company Shops
Aug. 12	New York, Chicago & St. Louis	25	Cov. Hopper	American Car & Foundry Co.
Aug. 26	Baltimore & Ohio	180	Automobile	Company Shops

FREIGHT CARS

THE CHESAPEAKE & OHIO has placed orders for 2,500 freight cars, all of 50 tons' capacity, with the following builders:

Builder	Number	Type
Greenville Steel	100	l.s., drop-end, wood floor gondola
Amer. Car & Fdy.	400	l.s., drop-end, steel floor gondola
Amer. Car & Fdy.	500	hopper
Pullman-Standard	650	hopper
General American	700	hopper
Ralston Steel	150	hopper
Total	2,500	

Inquiry for this equipment was reported in the *Railway Age* of August 26, page 326.

THE UNITED STATES NAVY DEPARTMENT, BUREAU OF SUPPLIES AND ACCOUNTS, is asking for bids on September 19 for from 12 to 15 steel underframe flat cars, 8 steel flat bottom gondola cars and 8 steel-sheathed box cars with wood lining and floor, all of 50 tons' capacity, for the Norfolk Navy Yard.

THE NORFOLK & WESTERN has recently ordered materials for the renewal of bodies of 1,000 hopper cars.

THE VIRGINIAN has placed orders for 500 all-steel hopper cars in its own shops at Princeton, W. Va. Inquiry for this equipment was reported in the *Railway Age* of August 12, page 267.

SIGNALING

THE ST. LOUIS-SAN FRANCISCO has placed an order with the Union Switch & Signal Company for the necessary materials to install a "UR" route interlocking at its Tower Grove, Mo., crossing of the Missouri Pacific. The St. Louis-San Francisco will carry out the field installation work with its own forces.

PENNSYLVANIA - READING SEASHORE LINES.—Separate sealed bids will be received by E. J. Lamneck, purchasing agent of this road, 15 N. 32nd street, Philadelphia, Pa., until 12 o'clock noon (e. s. t.) September 19 for the furnishing of miscellaneous signal material for the elimination of grade crossings at Absecon, N. J., under P. W. A. project No. N. J. 1330-F.

MOTOR VEHICLES

THE MAINE CENTRAL TRANSPORTATION COMPANY has received delivery of two 37-passenger buses from the a.c.f. Motors Company.

Construction

TEXAS & PACIFIC.—This company plans improvements to passenger station facilities at Marshall, Texas, which will cost approximately $150,000. In connection with this work bids are now being received for the construction of a train shed and pedestrian tunnels which will cost approximately $55,000.

Financial

APALACHICOLA NORTHERN.—*R. F. C. Loan.*—This road has applied for Interstate Commerce Commission approval of an $800,000 three-year loan from the Reconstruction Finance Corporation, the proceeds to be used to repay advances in the amount of $501,019, for rehabilitation of properties ($193,895), to pay past due vouchers in the amount of $41,586, past due taxes of $12,004 and to provide working capital in the amount of $51,496.

BALTIMORE & OHIO.—*Abandonment by the Buffalo, Rochester & Pittsburgh.*—Division 4 of the Interstate Commerce Commission has authorized the Baltimore & Ohio to abandon the operation and the Buffalo, Rochester & Pittsburgh to abandon its so-called Lucerne branch, extending from a point near Waterman, Pa., southerly to the end of the line at Luciusboro, 1.9 miles.

CHICAGO GREAT WESTERN.—*Expenses of Reorganization.*—Division 4 of the Interstate Commerce Commission has fixed the amounts of compensation due all legal counsel who represented parties in this company's reorganization proceedings under section 77 of the Bankruptcy Act. Out of a total of $228,992 claimed by the various parties, Division 4 fixed as a maximum allowance the sum of $106,630.

CHICAGO & NORTH WESTERN.—*Equipment Purchase.*—The Chicago & North Western was authorized by the federal district court at Chicago on August 30, to pay $1,400,000 cash for new passenger equipment, the authorization being given over the objection of counsel for the Reconstruction Finance Corporation and several of the bond issues. The trustee of the railroad told the court that the North Western has more than $10,000,000 in cash, on which it earns nothing, that cash payment for the proposed 19 streamlined passenger cars for the "400" would not injure its cash position and that lack of cash would not be used as an argument against a pending petition seeking payment of interest on some of the divisional mortgage bonds. He said the road would pay between $30,000 and $35,000 interest on the borrowed funds before it could obtain delivery of 800 freight cars it proposes to buy, if the freight cars were financed jointly with the passenger cars. The R. F. C. took the position that where interest is earned, the interest should be paid to maintain the credit of the road, and that where money can be used to pay interest rather than for the purchase of equipment, the debtor will benefit accordingly.

DELAWARE & HUDSON.—*Abandonment.*—This company has been authorized by Division 4 of the Interstate Commerce Commission to abandon its so-called Baldwin branch extending from Ticonderoga, N. Y., to the end of the line in Baldwin, two miles.

FAIRPORT, PAINESVILLE & EASTERN.—*Stock.*—This company has been granted authority by Division 4 of the Interstate Commerce Commission to issue $233,000 of common stock, consisting of 2,330 shares of a par value of $100 a share, to be sold at par and the proceeds applied to the redemption of $365,000 of its outstanding first mortgage six per cent gold bonds, series A.

NEW YORK, NEW HAVEN & HARTFORD.—*Reorganization of the Boston & Providence.*—The New York Central has been authorized to intervene in the reorganization proceedings of the Boston & Providence.

NEW YORK, NEW HAVEN & HARTFORD.—*Loan to Union Freight.*—The Union Freight Railroad Company of Boston, Mass., has applied to the Interstate Commerce Commission for authority to issue a $192,000 20-year promissory note or notes, bearing interest not in excess of 4½ per cent, to be exchanged for a loan from the trustees of the New Haven. Proceeds of the loan will be used for maintenance work.

NORFOLK SOUTHERN.—*Equipment Trust Certificates.*—This company has asked the Interstate Commerce Commission for authority to assume liability for $607,000 of three per cent equipment trust certificates maturing in 30 semi-annual installments payable serially in the amount of $21,000 on May 1, 1940, and in the amount of $21,000 on each November 1, and May 1, to and including May 1, 1943, and in the amount of $20,000 on November 1, 1943 and in the amount of $20,000 on May 1, and November 1, in each year to and including November 1, 1954. At the same time the company asked the Reconstruction Finance Corporation to aid in the financing by purchasing 90 per cent of the certificates.

TERMINAL RAILROAD ASSOCIATION OF ST. LOUIS.—*Bonds.*—This company has been authorized by Division 4 of the Interstate Commerce Commission to issue $7,000,000 of refunding and improvement mortgage 3⅜ per cent bonds, series B, due July 1, 1974, to be sold at 100.6577 and accrued interest to refund a like amount of bonds and for other corporate purposes. Division 4 also authorized the proprietary roads of the Association to guarantee one-sixteenth of the interest and sinking fund payments, except the Missouri Pacific, which would guarantee two-sixteenths.

Average Prices of Stocks and Bonds

	Sept. 5	Last week	Last year
Average price of 20 representative railway stocks..	29.87	27.80	27.75
Average price of 20 representative railway bonds..	55.19	54.44	59.19

Dividends Declared

Lackawanna R. R. of N. J.—$1.00, quarterly, payable October 2 to holders of record September 8.

New York, Lackawanna & Western.—$1.25, payable October 2 to holders of record September 8.

Pittsburgh, Ft. Wayne & Chicago.—$1.75, payable October 2 to holders of record September 11.

St. Joseph, South Bend & Southern.—80¢; 5 Per Cent Preferred, $2.50, semi-annually, both payable September 20 to holders of record September 11.

Southern.—Mobile & Ohio.—$2.00, payable October 2 to holders of record September 15.

Railway Officers

EXECUTIVE

Jay Samuel Hartt has been elected president of the Chicago, South Shore & South Bend, with headquarters at Chicago, succeeding **Ray Garrett.**

Willis E. Maxson, whose retirement as vice-president and general manager of the Gulf, Colorado & Santa Fe, with headquarters at Galveston, Tex., was announced in the *Railway Age* of September 2, was born in Mapleton, Kan., and attended Baker

Willis E. Maxson

University, Baldwin, Kan. He entered railway service in February, 1885, with the Santa Fe, serving as a clerk and telegraph operator at Girard, Kan., in various positions in the engineering department on construction work and as a relief agent on the Southern division until 1889. In 1891, he was appointed agent at Purcell, Okla., and from 1897 to 1901 he served as agent and superintendent of terminals of the G. C. & S. F., at Galveston, then being appointed superintendent of the Beaumont division at Beaumont, Tex. In August, 1906, Mr. Maxson was advanced to general superintendent at Galveston and from July, 1918 to March, 1920, during federal control of the railroads, he served as general manager of a group of lines in the Southwest, including the G. C. & S. F., the St. Louis-San Francisco & Texas, part of the International Great Northern and a portion of the A. T. & S. F. At the end of this period he was appointed assistant general manager of the G. C. & S. F. at Galveston, and on July 1, 1936, he was advanced to vice-president and general manager, the position he held until his retirement on September 1.

FINANCIAL, LEGAL AND ACCOUNTING

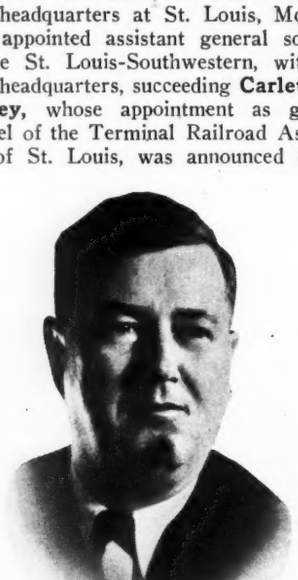
Carleton S. Hadley, whose appointment as general counsel of the Terminal Railroad Association of St. Louis, with headquarters at St. Louis, Mo., was announced in the *Railway Age* of September

2, was born at Lowell, Mass., on December 24, 1902, and graduated from Washington University in 1925 and Washington University Law School in 1928. During summers while attending the university, he worked in several departments of the Missouri Pacific. After receiving his law degree he was admitted to the bar in the state of Missouri and in 1935, he was admitted to practice before the Supreme Court of the United States. In August, 1928, he became associated with the law firm of Carter, Jones & Turney at St. Louis, and was appointed assistant attorney for the St. Louis Southwestern, by the firm members, who were at that time general solicitors of the Cotton Belt. In 1933, when the Cotton Belt organized its own law department, Mr. Hadley was appointed assistant general attorney and on January 1, 1936, he was promoted to assistant general solicitor. At the same time, following the filing of a reorganization plan by the Cotton Belt in 1935, he was appointed assistant general counsel for trustee, the position he held until his recent appointment.

J. W. Ewing has been elected secretary of the Rock Island Southern, with headquarters at Rock Island, Ill., succeeding **J. A. Hanley,** deceased.

James G. Blaine has been appointed assistant general attorney for the Missouri-Kansas-Texas, with headquarters at St. Louis, Mo., a newly created position.

John W. Murphy, assistant general attorney for the St. Louis-San Francisco, with headquarters at St. Louis, Mo., has been appointed assistant general solicitor of the St. Louis-Southwestern, with the same headquarters, succeeding **Carleton S. Hadley,** whose appointment as general counsel of the Terminal Railroad Association of St. Louis, was announced in the



John W. Murphy

Railway Age of September 2. Mr. Murphy was born at Burlington, Iowa, on June 30, 1889, and graduated from the University of Chicago in 1910 and from Northwestern University Law School in 1915. He entered railway service in June, 1916, in the legal department of the Chicago, Burlington & Quincy at Chicago. On May 1, 1918, he was promoted to assistant general attorney for the Iowa lines, with headquarters at Burlington, Iowa. On July 1, 1925, Mr. Murphy went with the Frisco as assistant general attorney, with headquarters at St. Louis, holding that position until his recent appointment.

OPERATING

C. R. Pedigo has been appointed trainmaster on the Missouri Pacific at Monroe, La., relieving **R. H. Gragg,** who has been transferred to Wichita, Kan. Mr. Gragg succeeds **J. M. Kelly,** who retired on September 5.

Blake Arthur Latta, whose promotion to general superintendent of express, Western region, on the Canadian National, with headquarters at Winnipeg, Man., was announced in the *Railway Age* of August 19, was born at Latta, Ont., on March 27, 1890, and entered railway service in July, 1905, as a telegraph operator on the Central Ontario (now part of the Canadian National), later serving as a relieving agent and brakeman at various points. On October 20, 1906, he went with the Canadian Northern (now part of the Canadian National), as an operator and agent at Piney, Man. In 1907, he was transferred to Winnipeg, and in April, 1909, he went with the Grand Trunk Pacific (now part of the Canadian National) serving as an operator and agent at various points and later as a ticket clerk in the passenger department at Winnipeg. On July 1, 1911, he returned to the Canadian Northern at Fort Frances, Ont., and in April, 1919, he was appointed chief clerk to the superintendent of express at Winnipeg. A year later he was promoted to traveling agent and traffic supervisor in the express department, with headquarters at Winnipeg. Mr. Latta was advanced to assistant superintendent of express at Saskatoon, Sask., in September, 1921, and to superintendent of express at Edmonton, Alta., in July, 1922, remaining in the latter position until his recent promotion.

Blake Arthur Latta

W. H. Clausen, has been appointed assistant superintendent of the Stevens Point division of the Minneapolis, St. Paul & Sault Ste. Marie, with headquarters at Ironwood, Mich., replacing **G. H. Nolan,** assigned to other duties, and **W. M. Christel,** has been appointed assistant superintendent of the Minneapolis-Duluth division, with headquarters at Minneapolis, Minn., succeeding **H. D. Keene,** deceased.

O. Masse, superintendent of the Levis division of the Canadian National, with headquarters at Levis, Que., has been appointed superintendent of transportation of the Quebec district, with headquarters at Quebec, Que., succeeding **J. J. Sunderland,** who has retired after many years of service. **A. L. Currie,** superintendent of the Cochrane division, with headquarters at Cochrane, Ont., has been transferred in the same capacity to the Levis division, succeeding Mr. Masse. **R. B. Corrigan,** assistant superintendent at Levis, has been appointed acting superintendent of the Cochrane division, succeeding Mr. Currie.

TRAFFIC

Allen R. Gould, assistant traffic manager of the Chicago & North Western, has been appointed traffic manager, with headquarters as before at Chicago, a newly created position. Mr. Gould entered the service of the North Western in 1900 as chief clerk in the traffic offices at Cincinnati, Ohio. He subsequently served as traveling agent at Cincinnati, general agent at Cleveland, Ohio, and general agent at Chicago. During the World War, Mr. Gould was appointed division freight and passenger agent in Madison, Wis., and upon the return of the railroads from government operation, he was promoted to general agent at New York, and a short time later, he was advanced to assistant passenger traffic manager, with headquarters at Chicago. In July, 1925, Mr. Gould was promoted to assistant freight and passenger traffic manager and in May, 1938, he was appointed assistant traffic manager, with headquarters as before at Chicago.

Allen R. Gould

J. L. Fortier, chief of the tariff bureau of the Chicago, Indianapolis & Louisville (Monon), at Chicago, has been appointed acting general freight agent at that point, succeeding to the duties of **J. R. Van Delinder,** who has been granted a leave of absence because of illness.

Wilbur Ray Van Winkle, traveling freight agent for the Atchison, Topeka &

Santa Fe at Atlanta, Ga., has been promoted to general agent at Cleveland, Ohio, succeeding **Grant Wyrick,** who has retired, and **R. C. Raybourne,** city passenger agent at Milwaukee, Wis., has been advanced to general agent at that point, replacing **James A. Elmslie,** who has retired.

Joseph A. Demeke, city freight agent on the Chicago, Rock Island & Pacific at San Francisco, Cal., has been promoted to

Joseph A. Demeke

general freight agent, with headquarters at Chicago, replacing **W. J. Ford,** who has been transferred to St. Louis, Mo. Mr. Ford succeeds to the duties of **C. P. Varney,** assistant general freight agent, whose promotion to general freight agent at Kansas City, Mo., was announced in the *Railway Age* of August 19.

Mr. Demeke was born in Denver, Colo. in 1891, and entered the service of the Rock Island at San Francisco, Cal., in 1930, as chief clerk in the general freight offices. In 1934, he was promoted to city freight agent at San Francisco, holding that position until his recent promotion, which was effective September 1.

F. S. Baird, assistant freight traffic manager of the Norfolk & Western, with headquarters at Roanoke, Va., has been appointed general coal freight agent, at Roanoke, succeeding **G. C. Van Zandt,** who has retired after 48 years of continuous service. **C. F. Keeley,** assistant freight traffic manager at Roanoke, succeeds Mr. Baird, with the same title. **H. G. Rardin,** assistant general freight agent, has been appointed assistant freight traffic manager, succeeding Mr. Keeley. **N. R. Lehmann,** assistant general freight agent, succeeds Mr. Rardin, with the same title. **C. H. Pernter,** chief of divisions bureau, has been appointed assistant general freight agent, succeeding **J. R. Cutright,** who succeeds Mr. Lehmann, with the same title. A photograph of Mr. Baird and a biographical sketch of his career were published in the *Railway Age* of May 13, in connection with his appointment as assistant freight traffic manager.

Mr. Van Zandt was born in Newton Hamilton, Pa., on August 3, 1869, and first entered the service of the Norfolk & Western on March 1, 1891, as a stenographer-clerk in the office of the general superintendent of transportation at Roanoke. On April 1, 1892, he became secretary to the general superintendent and on August 1, 1893, was advanced to chief clerk to the superintendent, Winston-Salem line, and to chief clerk to the general agent and superintendent of transportation on September 14, 1897. On July 1, 1901, he became chief clerk to the superintendent of the Scioto division, becoming agent at Ironton, Ohio, on March 1, 1902. Mr. Van Zandt was appointed agent at Columbus, Ohio, on December 8, 1910, and general agent at Cincinnati on December 1, 1912. He was appointed assistant general freight agent at Columbus on June 1, 1922, which position he held until February, 1927, when he was appointed general coal freight agent at Roanoke, the position he held until his retirement.

MECHANICAL

Guy S. Bennett, road foreman on the New York, Ontario & Western, has been appointed general road foreman and fuel supervisor, with headquarters at Middletown, N. Y.

W. L. Houghton, roundhouse foreman on the New York Central at Linndale, Ohio, has been promoted to master mechanic on the New York Central, the Michigan Central, the Indiana Harbor Belt and the Chicago River & Indiana, with headquarters at Chicago, succeeding **T. P. Ball** transferred.

ENGINEERING AND SIGNALING

L. L. Lyford, office engineer of the Illinois Central, with headquarters at Chicago, has been appointed assistant to chief engineer, with the same headquarters, a change in title.

J. G. Sutherland, division engineer on the Canadian Pacific at Schreiber, Ont., has been transferred in the same capacity to the Smith Falls division, with headquarters at Smiths Falls, Ont., succeeding **J. R. Caswell,** transferred.

T. M. von Sprecken, supervisor of bridges and buildings on the south end of the Cincinnati, New Orleans & Texas Pacific, (part of the Southern) with headquarters at Somerset, Ky., has been promoted to engineer of bridges, Western lines, with headquarters at Cincinnati, Ohio, relieving **G. H. Gilbert,** who has retired because of ill health.

W. F. Giles, Jr., signal supervisor on the Chicago, Burlington & Quincy, at Chicago, has been promoted to assistant signal engineer, with headquarters at Lincoln, Neb., succeeding **E. G. Wesson,** whose promotion to trainmaster at Hannibal, Mo., is announced elsewhere in these columns, and **R. L. Vaughan,** assistant signal supervisor at Chicago, has been advanced to signal supervisor at that point, replacing Mr. Giles.

Following the recent consolidation of the engineering and maintenance of way departments of the Delaware & Hudson under **P. O. Ferris** as chief engineer (as reported in the *Railway Age* of July 1), several additional changes in the personnel of the engineering department have been made, which became effective on August 16. **C. E. R. Haight,** formerly office engineer in the office of the engineer maintenance of way, has been appointed to the newly-created position of engineer of track. **E. Penrose,** engineer of bridges, has had his title changed to engineer of structures, and **A. R. Morse,** grade crossing engineer, has had his title changed to construction engineer. **J. P. McAvoy,** valuation engineer, has been appointed office engineer in the chief engineer's office, and the position of valuation engineer has been abolished. All these officers have their headquarters at Albany, N. Y.

PURCHASES AND STORES

C. Thorburn, general purchasing agent of the Pacific Electric Railway Company, has been appointed also an assistant purchasing agent of the Southern Pacific Company, with headquarters as before at Los Angeles, Cal.

R. M. Nelson, purchasing agent of the Chesapeake & Ohio, with headquarters at Cleveland, Ohio, has been promoted to general purchasing agent of the C. & O., the New York, Chicago & St. Louis (Nickel Plate), and the Pere Marquette, with the same headquarters, a newly-created position.

OBITUARY

Charles P. Eckels, who in 1918 was general superintendent of transportation of the Erie and who retired in 1927, died in Chicago on August 9.

Edwin Botsford Collister, assistant general attorney of the New York Central, with headquarters at New York, died on August 31 at Gouverneur, N. Y., at the age of 60.

William Y. Muirhead, insurance commissioner of the Canadian National, with headquarters at Montreal, Que., died on September 4 at Old Orchard Beach, Me., at the age of 64.

Dewitt C. Moon, who retired in the latter part of 1931 as assistant to vice-president on the New York Central, with headquarters at Cleveland, Ohio, died at that point on September 6, following a long illness.

John G. Clements, superintendent of the Harriman & Northeastern (part of the Southern), with headquarters at Harriman, Tenn., died at that point on August 14, following an operation in May, from which he never fully recovered. Mr. Clements was born near Paducah, Ky., on December 13, 1881, and attended Brown's Business college, Decatur, Ill. He entered railway service in 1897 during a school vacation as a truckman with the Illinois Central and was later promoted to freight house foreman, brakeman, switchman, conductor and yardmaster. In 1906, he went with the Cincinnati, New Orleans & Texas Pacific (part of the Southern system), as a conductor at Chattanooga, Tenn., and later in the same year he was promoted to general yardmaster. Mr. Clements was advanced to trainmaster in 1907, and to superintendent in 1920.

Table of Revenues and Expenses begins on next left-hand page

REVENUES AND EXPENSES OF RAILWAYS

MONTH OF JULY AND SEVEN MONTHS OF CALENDAR YEAR 1939

Name of road		Av. mileage operated during period	Operating revenues: Freight	Passenger	Total (inc. misc.)	Operating expenses: Maintenance of Way and structures	Maintenance of Equipment	Traffic	Transportation	Total	Operating ratio	Net from railway operation	Operating income	Net railway operating income 1939	Net railway operating income 1938
Akron, Canton & Youngstown	July	171	$150,462	$52	$157,002	$25,737	$11,997	$13,337	$50,027	$109,155	69.5	$47,847	$32,586	$17,686	$8,242
	7 mos.	171	1,052,985	279	1,101,317	170,042	109,285	97,746	356,827	794,516	72.1	306,801	211,002	97,183	—38,425
Alton	July	959	1,113,842	213,285	1,512,783	214,478	184,682	51,237	557,125	1,074,947	71.1	437,836	343,897	157,444	189,653
	7 mos.	959	6,324,411	1,427,613	9,043,490	1,290,136	1,256,222	327,190	3,750,711	7,111,513	78.6	1,931,977	1,264,898	93,900	—203,189
Atchison, Topeka & Santa Fe System	July	13,447	14,436,329	2,081,989	17,607,741	2,144,385	2,831,692	467,387	5,040,629	10,860,583	61.7	6,747,158	5,456,783	5,437,967	5,232,200
	7 mos.	13,463	70,857,258	10,242,857	88,593,834	13,161,750	20,092,543	3,164,650	32,700,828	71,661,761	80.9	16,932,073	8,513,436	8,103,157	7,474,501
Atlanta & West Point	July	93	101,601	26,853	146,960	17,920	25,382	7,555	65,860	126,795	86.3	20,165	10,477	—2,368	—1,594
	7 mos.	93	679,602	163,578	995,844	121,846	180,413	55,918	449,374	878,726	88.2	117,118	49,405	—51,230	—126,223
Western of Alabama	July	133	95,390	26,204	136,672	20,998	28,625	7,692	53,754	120,162	87.9	16,510	3,022	6,393	2,710
	7 mos.	133	668,590	160,532	960,052	135,955	201,051	56,360	383,206	838,847	87.4	121,205	26,330	38,309	—9,649
Atlanta, Birmingham & Coast	July	639	255,352	8,515	280,992	42,052	52,693	23,509	112,273	246,877	87.9	34,115	11,321	—9,767	2,004
	7 mos.	639	1,778,334	158,824	2,082,841	302,313	355,684	168,264	828,679	1,777,652	85.3	305,189	144,317	—44,473	—195,448
Atlantic Coast Line	July	5,104	2,317,931	327,992	2,926,147	411,063	714,994	126,753	1,353,112	2,755,295	94.2	170,852	—4,148	—161,958	—389,964
	7 mos.	5,106	21,336,835	4,691,198	29,045,505	2,963,046	5,107,334	1,083,723	11,239,421	21,647,577	74.5	7,397,928	4,272,928	2,549,924	1,640,080
Charleston & Western Carolina	July	343	216,328	954	221,290	21,430	33,098	7,800	69,835	138,755	62.7	82,535	60,535	59,275	31,468
	7 mos.	343	1,389,596	6,671	1,427,486	169,296	211,689	57,582	473,895	952,520	66.7	474,966	313,966	289,823	137,605
Baltimore & Ohio	July	6,398	11,430,136	1,118,148	13,250,849	1,310,150	2,653,894	406,522	4,629,030	9,598,657	72.4	3,652,192	2,783,267	2,267,838	1,850,142
	7 mos.	6,401	71,648,995	6,124,833	83,052,016	7,850,757	18,148,500	2,714,552	31,479,579	64,377,276	77.5	18,674,740	12,565,847	9,976,059	4,364,462
Staten Island Rapid Transit	July	24	51,407	76,794	141,041	10,032	20,321	1,107	77,365	121,533	86.2	19,508	—8,574	—13,210	—11,406
	7 mos.	24	363,239	509,337	941,205	76,595	145,660	7,572	564,695	880,274	93.5	60,931	—137,269	—181,909	—199,330
Bangor & Aroostook	July	603	175,209	16,375	210,758	88,699	66,961	7,582	92,750	279,779	132.7	—69,021	—81,721	—60,758	—68,793
	7 mos.	603	3,199,961	111,653	3,446,528	633,522	589,483	41,449	891,921	2,335,681	67.8	1,110,847	783,720	788,798	854,790
Bessemer & Lake Erie	July	224	1,558,743	1,447	1,578,718	112,061	277,712	12,555	212,482	650,930	41.2	927,788	741,288	747,070	251,908
	7 mos.	224	5,553,153	5,572	5,649,552	730,717	1,851,688	88,519	1,140,509	4,041,940	71.5	1,607,612	1,133,821	1,269,585	—18,798
Boston & Maine	July	1,937	2,469,325	686,741	3,596,894	449,786	426,650	63,736	1,448,794	2,547,784	70.8	1,049,110	740,213	533,827	353,086
	7 mos.	1,943	18,373,660	4,069,763	25,815,725	3,091,246	3,935,485	449,410	10,492,209	19,056,980	73.8	6,758,745	4,614,842	3,006,700	858,311
Burlington, Rock Island	July	255	124,082	21,318	153,854	21,153	15,889	4,973	51,366	103,032	67.0	50,822	42,592	32,596	18,425
	7 mos.	255	573,379	122,778	747,343	117,068	139,821	32,671	359,636	716,776	95.9	30,567	—27,379	—71,183	—43,696
Cambria & Indiana	July	37	118,304	.....	118,398	8,758	37,456	404	10,983	64,320	54.33	54,078	19,607	93,082	57,598
	7 mos.	37	723,560	.....	724,211	47,658	277,325	2,889	75,287	445,008	61.45	279,203	87,189	495,848	397,832
Canadian Pacific Lines in Maine	July	234	88,552	21,382	123,906	43,832	27,215	10,333	51,339	138,569	111.8	—14,663	—24,677	—48,567	—44,137
	7 mos.	234	1,261,735	104,381	1,453,641	275,551	251,723	69,618	517,035	1,153,031	79.3	300,610	226,705	90,955	11,059
Canadian Pacific Lines in Vermont	July	91	61,291	11,557	83,630	15,901	23,033	3,724	58,534	104,307	124.7	—20,677	—27,237	—45,825	—60,402
	7 mos.	91	422,865	62,922	558,504	98,491	163,588	26,744	424,173	735,330	131.7	—176,826	—224,515	—354,503	—475,072
Central of Georgia	July	1,871	988,093	111,564	1,216,313	165,912	248,532	53,219	536,636	1,075,321	88.4	140,992	30,895	29,598	—15,697
	7 mos.	1,871	7,139,239	698,448	8,887,611	1,178,274	1,899,324	366,887	3,867,916	7,835,184	88.2	1,052,427	269,893	152,536	—161,754
Central of New Jersey	July	710	1,955,199	449,853	2,598,694	187,368	519,502	51,784	1,086,348	1,940,241	74.7	658,453	244,683	69,813	—5,984
	7 mos.	711	14,398,567	2,519,316	18,183,228	1,642,399	3,522,933	331,437	7,771,183	13,926,462	76.6	4,256,766	1,448,962	231,314	440,998
Central Vermont	July	430	394,023	43,829	479,819	92,618	76,485	12,449	199,815	401,880	83.8	77,939	53,801	18,613	—27,997
	7 mos.	430	2,665,170	236,810	3,180,276	515,287	583,871	85,233	1,410,801	2,729,506	85.8	450,770	264,530	20,559	—382,444
Chesapeake & Ohio	July	3,110	10,248,911	268,706	10,915,374	910,124	1,940,968	197,704	2,434,653	5,776,474	52.9	5,138,900	3,853,307	3,808,125	2,519,105
	7 mos.	3,110	55,136,949	1,750,921	59,068,208	6,082,560	12,936,104	1,432,004	15,395,596	37,932,444	64.2	21,135,764	14,580,729	14,218,432	12,466,014
Chicago & Eastern Illinois	July	927	949,927	117,421	1,199,284	164,049	166,956	53,598	475,372	924,954	77.1	274,330	197,330	55,994	46,341
	7 mos.	927	6,554,989	825,675	8,449,933	1,059,628	1,553,540	378,827	3,463,167	6,901,762	81.7	1,548,171	1,001,171	36,725	—106,758
Chicago & Illinois Midland	July	131	280,577	486	306,882	43,778	61,622	18,982	75,044	218,214	71.1	88,668	60,964	66,210	59,761
	7 mos.	131	1,904,067	4,760	2,027,959	239,902	461,962	136,166	511,363	1,478,822	72.9	549,137	366,590	419,346	350,946
Chicago & North Western	July	8,329	5,699,955	1,296,856	7,706,908	1,495,402	1,465,543	209,955	2,922,085	6,401,663	83.1	1,305,245	786,510	530,965	231,106
	7 mos.	8,364	34,415,314	6,660,040	46,042,668	8,038,416	10,371,259	1,423,439	19,536,670	41,515,971	90.2	4,526,697	512,098	—1,104,065	—3,232,574
Chicago, Burlington & Quincy	July	8,931	6,933,847	1,044,157	8,773,707	1,473,073	1,387,662	255,999	2,906,407	6,336,595	72.2	2,437,112	1,786,538	1,373,806	2,547,105
	7 mos.	8,934	41,231,205	5,054,243	51,773,604	7,668,092	9,845,555	1,747,552	19,305,823	40,582,204	78.4	11,191,400	6,183,013	3,677,388	3,709,370
Chicago Great Western	July	1,505	1,320,672	49,300	1,472,233	210,902	214,085	60,794	540,287	1,073,620	72.9	398,613	312,303	128,144	61,736
	7 mos.	1,505	8,990,695	280,207	9,965,395	1,366,180	1,618,502	414,290	3,829,998	7,588,460	76.1	2,376,935	1,732,033	452,299	—385,120
Chicago, Indianapolis & Louisville	July	549	639,799	37,903	743,031	82,118	156,189	29,878	328,690	627,991	84.5	115,040	83,429	—11,240	16,976
	7 mos.	549	4,257,047	307,378	5,038,985	573,783	1,225,610	213,877	2,164,712	4,425,998	87.8	612,987	350,464	—331,355	—472,592

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LOCOMOTIVES

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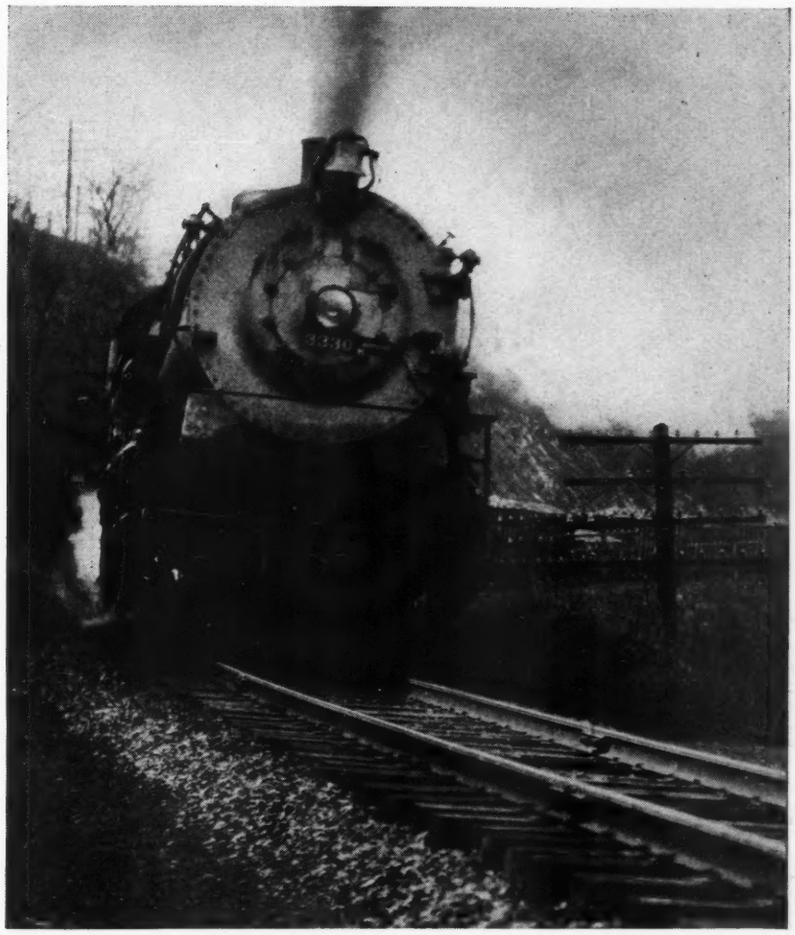

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REVENUES AND EXPENSES OF RAILWAYS

MONTH OF JULY AND SEVEN MONTHS OF CALENDAR YEAR 1939—CONTINUED

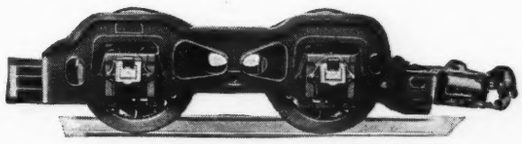
Name of road		Av. mileage operated during period	Operating revenues			Operating expenses					Operating ratio	Net from railway operation	Operating income	Net railway operating income	
			Freight	Passenger	Total (inc. misc.)	Maintenance of Way and structures	Maintenance of Equipment	Traffic	Transportation	Total				1939	1938
Chicago, Milwaukee, St. Paul & Pacific	July	10,942	$7,116,726	$840,200	$8,824,395	$2,012,792	$1,579,631	$241,950	$3,336,842	$7,554,815	85.6	$1,269,580	$593,580	$104,567	$264,276
	7 mos.	10,942	46,860,825	4,432,078	56,823,387	10,509,730	11,451,522	1,605,562	22,829,320	48,924,455	86.1	7,898,932	2,980,932	213,387	—77,814
Chicago, Rock Island & Pacific	July	7,232	5,894,167	674,543	7,042,449	1,305,022	1,136,408	229,906	2,360,192	5,302,975	75.3	1,739,474	1,284,709	856,507	1,091,841
	7 mos.	7,250	34,070,972	4,182,488	41,538,441	6,278,894	8,235,415	1,625,206	16,400,977	34,435,681	82.9	7,102,760	3,838,569	1,768,515	—128,279
Chicago, Rock Island & Gulf	July	627	718,987	31,978	856,454	61,467	34,839	21,636	156,684	299,634	35.	556,820	531,209	427,026	193,302
	7 mos.	627	2,427,399	186,862	3,234,015	545,598	245,451	147,228	967,454	2,079,523	64.3	1,154,492	980,609	377,873	121,933
Chicago, St. Paul, Minneapolis & Omaha	July	1,629	1,169,131	157,313	1,423,020	340,343	240,412	38,648	636,572	1,320,208	92.8	102,812	—11,128	—115,124	—92,271
	7 mos.	1,629	7,760,302	806,470	9,200,716	1,533,316	1,778,998	270,704	4,537,489	8,573,391	93.2	627,325	—150,554	—850,362	—547,274
Clinchfield Railroad	July	308	557,147	4,080	566,220	55,587	96,929	17,638	104,395	290,372	51.3	275,848	226,041	238,268	121,036
	7 mos.	308	3,806,221	21,512	3,866,418	297,116	696,202	132,918	751,742	1,993,591	51.6	1,872,827	1,522,854	1,623,334	1,003,839
Colorado & Southern	July	787	486,639	38,661	572,594	67,172	105,338	15,973	201,626	415,910	72.6	156,684	80,994	63,973	38,461
	7 mos.	792	2,945,429	192,400	3,492,882	372,824	735,950	102,824	1,386,287	2,780,324	79.6	712,558	176,622	79,567	—131,882
Fort Worth & Denver City	July	902	648,015	62,906	700,258	42,615	72,282	19,342	174,121	342,571	48.9	357,687	321,124	276,926	266,803
	7 mos.	902	3,164,889	325,817	3,448,382	382,939	582,509	129,945	1,216,701	2,546,358	73.8	902,024	643,776	375,729	569,023
Columbus & Greenville	July	168	101,103	6,135	112,872	18,448	20,053	4,375	38,924	91,532	81.1	21,340	11,330	12,898	7,388
	7 mos.	168	714,192	44,074	801,789	120,829	126,001	32,420	261,920	615,741	76.8	186,048	120,831	114,288	34,030
Delaware & Hudson	July	847	1,673,852	121,574	1,890,035	216,289	354,062	46,254	703,667	1,383,313	73.2	506,722	358,508	323,202	125,826
	7 mos.	835	12,514,012	618,297	13,717,179	1,420,306	2,408,315	305,742	5,071,209	9,786,108	71.3	3,931,071	2,817,967	2,661,576	1,226,204
Delaware, Lackawanna & Western	July	985	2,657,976	619,697	3,711,549	385,931	694,146	109,738	1,795,224	3,107,841	83.7	603,708	166,708	109,438	—169,852
	7 mos.	986	21,134,374	3,875,074	28,045,068	1,849,552	5,329,376	793,926	13,047,967	22,001,770	78.5	6,043,298	2,997,298	2,516,111	933,824
Denver & Rio Grande Western	July	2,555	1,607,843	221,067	1,938,570	364,717	495,939	70,402	712,148	1,713,340	88.4	225,230	74,039	—21,513	—210,054
	7 mos.	2,558	10,986,686	847,665	12,550,658	2,305,067	3,338,370	483,901	4,676,863	11,309,626	90.1	1,241,032	—39,912	—504,608	—1,329,599
Denver & Salt Lake	July	232	88,245	7,032	104,487	39,511	31,961	2,933	42,163	125,625	120.2	—21,138	—43,904	6,796	16,270
	7 mos.	232	943,615	41,207	1,046,636	229,993	303,151	18,068	366,960	985,416	94.2	61,220	—133,168	187,362	245,029
Detroit & Mackinac	July	242	66,692	3,080	77,426	14,788	17,471	903	25,828	61,939	80.0	15,487	12,275	7,606	5,389
	7 mos.	242	362,137	18,632	439,185	75,950	94,973	6,588	168,576	367,829	83.8	71,356	44,457	16,406	14,963
Detroit & Toledo Shore Line	July	50	196,847	.....	197,593	18,903	17,672	8,624	63,938	116,845	59.1	80,748	54,879	16,916	—11,435
	7 mos.	50	1,724,936	.....	1,732,769	175,704	147,120	62,374	568,299	1,007,917	58.2	724,852	525,472	207,548	102,807
Detroit, Toledo & Ironton	July	472	436,290	230	462,203	51,780	79,395	12,594	118,226	280,057	60.6	182,146	131,136	118,921	71,284
	7 mos.	472	3,496,412	1,326	3,665,229	380,147	595,893	86,779	895,996	2,091,910	57.1	1,573,319	1,165,605	1,047,815	540,008
Duluth, Missabe & Iron Range	July	540	2,336,758	2,360	2,713,598	184,383	206,489	4,807	360,114	788,782	29.1	1,924,816	1,654,012	1,655,275	703,715
	7 mos.	540	6,562,953	11,209	7,637,279	1,164,247	1,532,813	30,519	1,651,583	4,617,487	60.5	3,019,792	1,723,613	1,727,359	—113,363
Duluth, Winnipeg & Pacific	July	175	101,301	2,143	106,176	23,010	17,601	2,249	41,484	88,336	83.2	17,840	10,545	642	—30,817
	7 mos.	175	693,408	9,101	720,833	151,464	130,300	15,768	323,537	650,620	90.3	70,213	12,731	—81,065	—190,074
Elgin, Joliet & Eastern	July	390	930,217	54	1,155,056	164,088	277,148	14,189	482,478	973,500	84.3	181,556	74,173	48,445	19,480
	7 mos.	390	7,796,683	62	9,027,923	1,024,637	1,967,815	103,677	3,521,816	6,882,154	76.2	2,145,769	1,303,582	1,007,158	—94,883
Erie	July	2,290	5,324,184	481,176	6,278,700	732,443	1,227,175	176,443	2,470,854	4,866,703	77.5	1,411,997	858,947	568,700	209,245
	7 mos.	2,290	37,350,345	2,763,946	43,385,104	4,056,943	8,868,084	1,206,153	17,073,349	32,974,554	76.0	10,410,550	6,437,137	4,768,392	—69,960
New York, Susquehanna & Western	July	146	175,767	18,367	206,512	29,692	28,140	3,195	89,890	164,856	79.8	41,656	16,724	—17,394	—14,668
	7 mos.	145	1,563,888	129,692	1,773,462	142,320	190,015	22,653	703,082	1,153,271	65.0	620,191	391,446	136,649	54,912
Florida East Coast	July	685	253,828	81,121	378,511	131,511	140,600	19,820	170,234	502,333	132.7	—123,822	—181,495	—202,419	—251,825
	7 mos.	685	3,676,989	1,858,628	6,177,767	743,160	1,013,695	167,272	1,986,907	4,317,099	69.9	1,860,668	1,332,563	885,585	1,268,008
Georgia Railroad	July	329	276,055	14,383	308,944	31,535	56,690	17,949	132,754	252,618	81.8	56,326	41,459	54,708	29,490
	7 mos.	329	1,806,825	76,956	2,053,753	230,629	368,057	129,127	902,577	1,729,100	84.2	324,653	215,532	304,933	190,955
Georgia & Florida	July	408	96,598	2,331	102,315	22,747	13,331	8,375	37,990	87,473	85.5	14,842	6,819	2,456	—5,416
	7 mos.	408	566,764	11,627	605,898	135,562	112,548	57,635	250,251	592,074	97.7	13,824	—42,234	—70,036	—76,821
Grand Trunk Western	July	1,029	1,358,032	115,626	1,585,245	235,638	318,910	42,427	747,911	1,423,575	89.8	161,670	42,443	—32,981	—37,200
	7 mos.	1,030	10,586,969	570,840	11,981,979	1,530,214	2,575,412	293,527	5,233,583	10,164,672	84.8	1,817,307	953,435	450,477	—1,207,122
Canadian National Lines in New England	July	172	100,204	14,610	127,184	43,095	15,503	2,919	57,714	124,283	97.7	2,901	—13,611	—45,175	—21,890
	7 mos.	172	654,626	38,498	767,535	224,857	122,587	20,086	453,742	855,673	111.5	—88,138	—201,636	—398,909	—367,564
Great Northern	July	8,072	6,830,644	517,200	8,031,744	1,218,168	1,310,563	208,015	2,387,613	5,389,557	67.1	2,642,187	1,737,143	1,565,578	1,069,519
	7 mos.	8,072	38,683,340	2,575,419	45,001,100	5,994,596	8,894,865	1,383,162	15,558,140	33,630,458	74.7	11,370,642	6,230,331	5,301,063	1,378,451
Green Bay & Western	July	234	126,813	448	132,624	24,815	19,040	6,175	48,536	103,173	77.7	29,451	16,561	6,795	15,285
	7 mos.	234	914,703	2,430	949,168	161,835	112,361	45,534	325,105	677,055	71.3	272,113	180,173	119,092	72,562

Continued on next left-hand page

Extra torque at the wheel

...*TO START ROLLING*

Once it is rolling the horses can keep it moving . . . Once the locomotive is started it can maintain its running speed. » » » Viewed from the standpoint of crank position and cut-off, the steam locomotive also needs help in starting to avoid taking slack. » » » The Locomotive Booster* capitalizes idle weight and spare steam. It prevents starting shocks and insures passenger comfort.



*Trademark Registered United States Patent Office

FRANKLIN RAILWAY SUPPLY COMPANY, INC.

NEW YORK
CHICAGO
MONTREAL

REVENUES AND EXPENSES OF RAILWAYS

MONTH OF JULY AND SEVEN MONTHS OF CALENDAR YEAR 1939—CONTINUED

Name of road		Av. mileage operated during period	Operating revenues: Freight	Passenger	Total (inc. misc.)	Operating expenses: Maintenance of Way and structures	Maintenance of Equipment	Traffic	Transportation	Total	Operating ratio	Net from railway operation	Operating income	Net railway operating income 1939	Net railway operating income 1938
Gulf & Ship Island	July	259	$70,446	$4,722	$83,555	$23,700	$14,398	$2,463	$48,009	$91,583	109.6	—$8,028	—$24,930	—$35,046	—$28,589
	7 mos.	259	591,948	26,107	684,364	150,084	118,816	17,558	331,498	647,569	94.6	36,795	—81,259	—139,783	—151,204
Gulf, Mobile & Northern	July	824	503,001	22,473	548,662	86,423	84,805	42,119	145,522	395,433	72.1	153,229	106,229	72,799	71,127
	7 mos.	824	3,513,757	130,283	3,807,470	507,800	580,488	280,158	1,036,337	2,645,678	69.5	1,161,792	830,292	576,779	372,206
Illinois Central	July	4,949	6,150,499	701,769	7,367,130	836,816	1,637,661	181,162	2,726,567	5,703,473	77.4	1,663,657	999,125	990,684	1,175,023
	7 mos.	4,949	43,221,507	5,084,127	52,839,287	5,548,785	11,551,823	1,305,275	20,581,967	41,239,273	78.0	11,600,014	6,741,569	6,258,465	6,140,404
Yazoo & Mississippi Valley	July	1,619	910,318	65,964	1,037,702	123,116	164,742	28,427	450,147	809,336	78.0	228,366	90,779	14,205	159,882
	7 mos.	1,619	6,741,985	388,182	7,659,055	830,648	1,185,927	205,696	3,185,839	5,715,211	74.6	1,943,844	977,934	520,318	740,822
Illinois Central System	July	6,568	7,060,817	767,733	8,404,832	959,932	1,802,403	209,589	3,176,714	6,512,809	77.5	1,892,023	1,087,853	1,012,802	1,343,805
	7 mos.	6,568	49,963,492	5,472,309	60,498,342	6,379,433	12,737,750	1,510,971	23,767,806	46,954,484	77.6	13,543,858	7,705,124	6,841,673	6,945,726
Illinois Terminal	July	481	352,794	58,795	455,995	57,132	67,753	16,559	153,324	312,866	68.61	143,129	101,186	83,029	82,368
	7 mos.	488	2,461,276	407,180	3,152,793	351,575	494,093	114,577	1,128,469	2,216,114	70.29	936,679	638,700	521,284	358,882
Kansas City Southern	July	879	915,342	27,725	1,080,781	94,913	150,557	51,097	322,718	675,617	62.5	405,164	306,164	260,747	255,780
	7 mos.	879	6,396,178	135,424	7,362,611	646,677	1,081,680	365,247	2,190,699	4,682,614	63.6	2,679,997	1,986,997	1,676,600	1,715,930
Kansas, Oklahoma & Gulf	July	327	237,169	447	240,067	36,828	18,028	9,085	42,416	104,816	43.7	135,251	103,707	86,011	60,267
	7 mos.	327	1,553,250	2,564	1,574,386	220,198	122,495	62,600	294,949	754,330	47.9	820,056	662,139	535,844	378,767
Lake Superior & Ishpeming	July	156	240,805	69	293,396	26,951	23,752	539	43,689	102,246	34.8	191,150	141,589	141,078	34,896
	7 mos.	156	822,854	436	991,224	165,995	140,185	4,351	216,149	570,325	57.5	420,899	161,787	156,426	—274,234
Lehigh & Hudson River	July	96	128,570	238	129,506	17,338	19,376	3,330	44,563	90,371	69.8	39,135	24,615	12,967	6,491
	7 mos.	96	889,960	638	895,202	85,383	146,659	24,983	310,491	612,547	68.4	282,655	178,357	100,376	39,206
Lehigh & New England	July	200	334,670	.....	337,410	31,906	55,803	6,421	108,911	218,024	64.6	119,386	89,553	92,049	48,182
	7 mos.	200	2,335,403	.....	2,352,474	216,224	410,889	46,973	743,846	1,529,144	65.0	823,330	610,261	653,201	369,357
Lehigh Valley	July	1,282	2,785,493	220,653	3,200,962	296,138	641,549	107,216	1,447,003	2,616,554	81.7	548,408	330,602	154,737	276,705
	7 mos.	1,283	22,435,985	1,232,766	25,203,954	1,631,582	4,610,530	767,441	10,878,228	18,748,136	74.4	6,455,818	4,606,037	3,248,542	1,616,913
Louisiana & Arkansas	July	847	556,487	7,724	584,974	86,519	82,751	34,155	160,811	387,354	66.2	197,620	156,059	117,835	121,945
	7 mos.	847	3,813,582	53,686	4,027,170	610,109	581,419	250,211	1,133,406	2,763,836	68.6	1,263,334	939,530	694,892	628,251
Louisiana, Arkansas & Texas	July		Included in	Louisiana	& Arkansas										
	7 mos.		"	"	"										
Louisville & Nashville	July	4,908	6,119,872	560,747	7,065,357	687,868	1,583,338	167,889	2,442,270	5,131,588	72.6	1,933,769	1,205,987	1,346,470	971,279
	7 mos.	4,913	40,506,055	3,489,366	47,449,970	5,215,243	10,736,643	1,268,376	16,853,106	35,928,897	75.7	11,521,073	7,138,569	7,116,301	4,203,474
Maine Central	July	990	674,726	117,118	877,578	154,420	114,369	11,395	351,171	665,891	75.9	211,687	145,786	112,451	84,498
	7 mos.	996	5,764,923	556,145	6,946,246	1,080,883	1,118,725	85,772	2,556,582	5,078,031	73.1	1,868,215	1,401,342	1,072,333	670,859
Midland Valley	July	352	115,575	10	117,204	14,419	10,049	2,533	28,593	61,378	52.4	55,826	44,023	38,468	42,484
	7 mos.	352	732,634	22	743,206	87,866	65,588	18,260	201,227	415,620	55.9	327,586	245,120	200,404	150,271
Minneapolis & St. Louis	July	1,519	666,834	8,950	710,603	139,850	137,160	46,413	258,535	614,633	86.5	95,970	53,485	24,348	24,099
	7 mos.	1,522	4,484,157	57,414	4,788,392	730,177	870,453	325,678	1,845,321	4,016,337	83.9	772,055	464,743	201,119	131,320
Minneapolis, St. Paul & Sault Ste. Marie	July	4,289	1,988,214	168,951	2,360,182	393,650	372,698	63,372	940,237	1,865,642	79.0	494,540	308,031	174,936	—7,637
	7 mos.	4,290	12,340,154	633,521	14,127,050	2,406,559	2,677,139	441,587	6,319,617	12,454,205	88.2	1,672,845	473,103	—244,927	—1,162,324
Duluth, South Shore & Atlantic	July	550	168,209	12,423	201,515	41,459	35,750	5,826	82,980	171,478	85.1	30,037	15,521	8,938	23,034
	7 mos.	550	957,052	68,398	1,142,053	236,730	250,078	38,028	557,027	1,125,331	98.5	16,722	—83,463	—119,839	—129,017
Spokane International	July	152	64,944	980	71,309	16,652	7,150	1,865	22,524	52,848	74.1	18,461	13,099	9,434	7,359
	7 mos.	152	384,282	6,194	434,384	106,749	47,732	14,029	155,859	358,072	82.4	76,312	50,444	31,444	—7,410
Mississippi Central	July	150	60,970	3,156	66,067	22,231	9,428	6,528	18,625	61,126	92.5	4,941	239	—4,934	10,387
	7 mos.	150	431,635	12,258	459,448	148,530	68,009	48,809	134,438	434,106	94.5	25,342	—8,108	—43,198	—2,392
Missouri & Arkansas	July	365	71,898	1,942	78,954	22,612	11,301	6,475	27,851	73,452	93.0	5,502	1,465	—5,475	1,160
	7 mos.	365	536,503	10,518	591,826	147,428	68,317	44,495	195,650	492,211	83.2	99,615	72,534	20,403	—35,727
Missouri-Illinois	July	193	200,955	396	203,076	26,532	16,628	3,080	48,663	98,636	48.6	104,440	71,829	52,424	938
	7 mos.	193	1,193,536	2,581	1,208,452	165,907	109,591	21,358	331,298	659,942	54.6	548,510	431,383	305,126	—4,961
Missouri-Kansas-Texas Lines	July	3,294	2,343,953	182,644	2,758,857	337,204	385,893	110,365	898,079	1,859,452	67.4	899,405	640,445	461,395	461,158
	7 mos.	3,294	13,291,068	1,197,535	16,080,305	2,286,996	2,763,507	775,852	6,149,677	12,885,118	80.1	3,195,187	1,900,816	636,432	137,215
Missouri Pacific	July	7,150	6,365,421	481,748	7,456,263	1,180,169	1,362,950	236,029	2,529,097	5,525,808	74.1	1,930,455	1,432,146	1,004,566	1,397,683
	7 mos.	7,166	38,654,270	2,801,407	45,581,850	6,830,338	9,320,737	1,644,811	17,258,484	36,787,286	80.7	8,794,564	5,374,692	2,676,852	1,986,115
Gulf Coast Lines	July	1,759	822,915	41,581	915,671	182,851	189,548	45,410	318,020	777,671	84.93	138,000	61,175	15,581	—49,974
	7 mos.	1,759	8,645,902	261,747	9,355,226	1,372,504	1,388,887	316,559	2,692,411	6,112,302	65.34	3,242,924	2,730,560	1,919,706	1,632,422

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NO. 99 OF A SERIES OF FAMOUS ARCHES OF THE WORLD

PALERMO PARK VIADUCT

ARGENTINA

This viaduct, one of the largest in South America, is situated at Palermo Park, in the city of Buenos Aires, Argentina. It carries the two-track main-line of the Buenos Aires & Pacific Railway over which runs the locally famous service, the "International", connecting Buenos Aires with Mendoza and Chile. This viaduct, which was completed in 1913, is constructed of brick in cement, and has a total length of more than 2,950 feet. The average arch span is 42½ feet » » » The Security Sectional Arch design is the result of long experience and careful study by American Arch Company Engineers. Its development paralleled locomotive development, and today it is an essential factor in the successful operation of high speed, high capacity trains.

THERE'S MORE TO SECURITY ARCHES THAN JUST BRICK

HARBISON-WALKER REFRACTORIES CO.

Refractory Specialists

AMERICAN ARCH CO.
INCORPORATED
60 EAST 42nd STREET, NEW YORK, N. Y.
Locomotive Combustion Specialists

REVENUES AND EXPENSES OF RAILWAYS

MONTH OF JULY AND SEVEN MONTHS OF CALENDAR YEAR 1939—CONTINUED

Name of road		Av. mileage operated during period	Operating revenues: Freight	Passenger	Total (inc. misc.)	Operating expenses: Maintenance of Way and structures	Maintenance of Equipment	Traffic	Transportation	Total	Operating ratio	Net from railway operation	Operating income	Net railway operating income 1939	Net railway operating income 1938
International Great Northern	July	1,155	$712,679	$91,344	$911,813	$152,224	$176,080	$30,207	$381,957	$794,147	87.1	$117,666	$55,017	$5,432	—$34,157
	7 mos.	1,155	5,280,033	495,256	6,493,961	1,061,694	1,314,475	212,988	2,823,114	5,783,704	89.1	710,257	294,873	—282,200	—375,442
Mobile & Ohio	July	1,180	851,700	31,516	925,342	154,746	186,029	40,301	335,651	760,217	82.2	165,125	102,905	44,271	112,172
	7 mos.	1,180	6,145,643	170,135	6,633,726	1,042,415	1,296,377	300,250	2,400,874	5,353,056	80.7	1,280,670	840,996	343,474	442,689
Monongahela	July	172	348,840	641	351,110	33,760	32,275	532	68,574	137,440	39.1	213,670	180,459	103,154	57,044
	7 mos.	172	1,940,052	4,109	1,956,529	208,132	174,272	3,449	455,424	860,247	44.0	1,096,282	868,862	436,151	365,276
Montour	July	51	216,185	.....	218,748	14,711	45,769	986	40,169	108,362	49.5	110,386	100,774	131,236	60,841
	7 mos.	55	934,633	.....	945,133	73,343	266,831	6,928	226,702	620,092	65.6	325,041	211,531	381,878	274,154
Nashville, Chattanooga & St. Louis	July	1,111	941,890	87,739	1,149,694	143,849	217,291	61,325	451,351	925,202	80.5	224,492	146,632	143,467	140,962
	7 mos.	1,111	6,889,565	647,744	8,470,079	952,023	1,664,631	450,756	3,245,821	6,704,732	79.2	1,765,347	1,216,103	1,030,082	746,486
Nevada Northern	July	165	42,132	569	47,398	7,688	2,787	1,218	9,477	25,744	54.4	21,654	7,867	11,184	1,425
	7 mos.	165	331,602	5,744	370,126	52,354	25,915	8,620	70,920	192,540	52.0	177,586	97,503	116,061	60,779
New York Central	July	11,039	18,263,320	5,838,384	27,118,164	3,123,712	5,335,435	607,451	10,131,940	20,443,400	75.4	6,674,764	3,912,981	2,812,237	970,884
	7 mos.	11,043	126,410,753	35,221,703	183,088,884	19,827,655	38,743,287	3,999,052	71,767,120	142,992,927	78.1	40,095,957	19,590,970	11,502,190	1,079,071
Pittsburgh & Lake Erie	July	233	1,488,458	39,932	1,569,745	173,227	543,975	25,711	476,164	1,293,520	82.4	276,225	110,605	298,714	180,603
	7 mos.	233	8,325,934	274,547	8,917,106	1,014,825	3,405,274	191,487	3,194,604	8,358,365	93.7	558,741	—376,691	946,722	415,669
New York, Chicago & St. Louis	July	1,704	3,076,151	99,756	3,288,569	380,738	523,851	116,991	1,180,882	2,315,888	70.4	972,681	756,686	472,050	411,612
	7 mos.	1,704	21,509,873	494,803	22,758,059	2,481,979	3,547,849	842,595	8,373,315	16,075,761	70.6	6,682,298	5,237,237	3,305,907	1,587,661
New York, New Haven & Hartford	July	1,863	3,580,285	2,422,709	6,606,637	1,102,443	1,157,287	111,786	2,516,109	5,240,791	79.3	1,365,846	835,846	219,937	166,865
	7 mos.	1,876	26,112,799	15,365,234	46,172,538	6,181,333	7,909,291	798,271	17,809,720	35,178,173	76.2	10,994,365	7,374,365	3,081,538	—493,131
New York Connecting	July	21	174,513	.....	180,300	34,052	9,168	.....	27,383	71,939	39.9	108,361	68,143	75,643	85,589
	7 mos.	21	1,403,256	.....	1,473,366	174,293	70,658	.....	219,458	473,721	32.2	999,645	712,730	729,120	447,889
New York, Ontario & Western	July	576	347,285	118,546	504,381	66,015	105,659	14,410	259,008	465,287	92.2	39,094	—13,170	—60,688	156
	7 mos.	576	3,349,157	178,950	3,840,164	404,099	805,502	116,028	1,897,554	3,388,231	88.2	451,933	92,411	—197,315	—378,550
Norfolk & Western	July	2,191	7,734,320	178,205	8,094,021	774,321	1,567,573	143,499	1,722,793	4,399,293	54.4	3,694,728	2,650,216	2,863,153	1,676,993
	7 mos.	2,191	43,263,790	1,038,077	45,746,258	4,908,295	10,073,333	968,981	11,188,469	28,463,794	62.2	17,282,464	11,004,705	12,095,282	7,071,063
Norfolk Southern	July	805	346,592	6,013	367,488	71,609	52,095	23,923	137,952	299,881	81.6	67,607	35,776	20,343	11,589
	7 mos.	805	2,510,190	23,328	2,642,301	504,834	371,748	170,891	982,264	2,135,710	80.8	506,591	279,992	159,726	179,692
Northern Pacific	July	6,720	4,376,164	433,337	5,323,766	993,693	1,082,721	176,057	1,907,340	4,454,181	83.7	869,585	295,338	482,720	108,230
	7 mos.	6,721	28,088,116	2,177,316	33,313,564	5,351,151	7,456,928	1,222,690	12,981,795	28,977,373	87.0	4,336,191	425,424	2,176,131	—46,603
Northwestern Pacific	July	352	218,172	67,498	320,767	54,164	50,570	3,845	161,142	280,159	87.3	40,608	21,025	10,272	—31,954
	7 mos.	352	1,248,629	371,395	1,810,129	394,574	339,512	24,651	1,056,119	1,894,030	104.6	—83,901	—209,498	—273,661	—760,883
Oklahoma City-Ada-Atoka	July	132	26,251	318	28,354	9,214	955	924	10,776	23,447	82.7	4,907	2,601	—2,131	1,920
	7 mos.	132	206,651	2,026	221,841	48,755	8,984	5,596	73,973	149,506	67.4	72,335	52,931	27,679	14,884
Pennsylvania	July	10,289	24,706,816	6,372,428	34,375,980	3,489,896	7,014,144	713,576	12,167,702	24,587,940	71.5	9,788,040	6,302,918	5,556,485	5,026,413
	7 mos.	10,289	162,947,613	40,294,394	223,999,384	23,460,353	45,205,799	4,823,524	83,499,106	165,450,971	73.9	58,548,413	36,509,878	32,571,263	24,705,257
Long Island	July	383	501,091	2,033,831	2,639,531	191,801	322,680	18,108	1,048,198	1,614,933	61.2	1,024,598	545,093	312,404	299,112
	7 mos.	383	3,886,294	10,040,953	14,589,395	1,493,270	2,439,012	76,285	6,967,415	11,221,226	76.9	3,368,169	1,275,601	—55,630	—29,603
Pennsylvania-Reading Seashore Lines	July	412	244,870	463,015	732,276	89,086	76,975	9,810	358,211	550,805	75.2	181,471	67,690	—73,599	—73,541
	7 mos.	412	1,695,175	1,191,052	3,024,158	555,116	543,293	50,944	2,027,172	3,289,153	108.8	—264,995	—804,543	—1,355,224	—1,399,997
Pere Marquette	July	2,115	1,925,616	124,692	2,215,591	326,049	520,890	63,436	873,351	1,883,519	85.0	332,072	168,519	29,808	—74,614
	7 mos.	2,115	14,497,370	551,063	15,939,081	2,187,782	3,571,095	441,823	6,349,646	13,226,296	83.0	2,712,785	1,617,595	850,575	—798,068
Pittsburg & Shawmut	July	101	35,824	.....	36,148	9,643	14,642	1,774	13,354	43,224	119.6	—7,076	—8,836	—7,581	—7,044
	7 mos.	101	288,696	.....	291,171	51,810	112,680	10,859	102,904	303,941	104.4	—12,770	—25,867	—29,746	—48,094
Pittsburgh & West Virginia	July	136	294,011	.....	308,934	36,932	60,959	14,141	65,479	200,035	64.8	108,899	86,731	89,917	55,680
	7 mos.	136	1,623,420	139	1,735,578	225,874	375,864	101,016	414,526	1,281,323	73.8	454,255	294,929	331,998	285,781
Pittsburg, Shawmut & Northern	July	190	65,594	.....	65,971	17,017	10,183	973	23,690	57,721	87.5	8,250	3,748	—3,830	—7,438
	7 mos.	190	494,694	.....	499,005	93,072	80,721	6,666	172,787	392,766	80.7	106,239	73,470	21,277	—19,827
Reading	July	1,450	3,847,662	254,695	4,296,321	404,826	780,244	71,264	1,710,301	3,109,125	72.4	1,187,196	840,408	808,219	647,095
	7 mos.	1,450	27,227,737	1,874,309	30,485,670	2,458,864	5,623,474	496,447	12,572,426	22,188,793	72.8	8,296,877	6,009,618	5,822,074	4,543,115
Richmond, Fredericksburg & Potomac	July	118	382,730	192,761	651,503	88,519	121,929	9,430	235,920	492,238	75.6	159,265	100,664	78,082	46,386
	7 mos.	118	2,840,279	1,605,199	5,223,223	529,648	961,456	66,664	1,957,247	3,845,683	73.6	1,377,540	959,665	544,525	256,231
Rutland	July	407	176,231	30,957	264,894	36,228	52,521	10,287	126,594	235,319	88.8	29,575	10,272	6,581	—40,551
	7 mos.	407	1,300,972	186,504	1,896,149	251,587	393,597	71,714	1,048,403	1,839,740	97.0	56,409	—79,017	—95,224	—411,724

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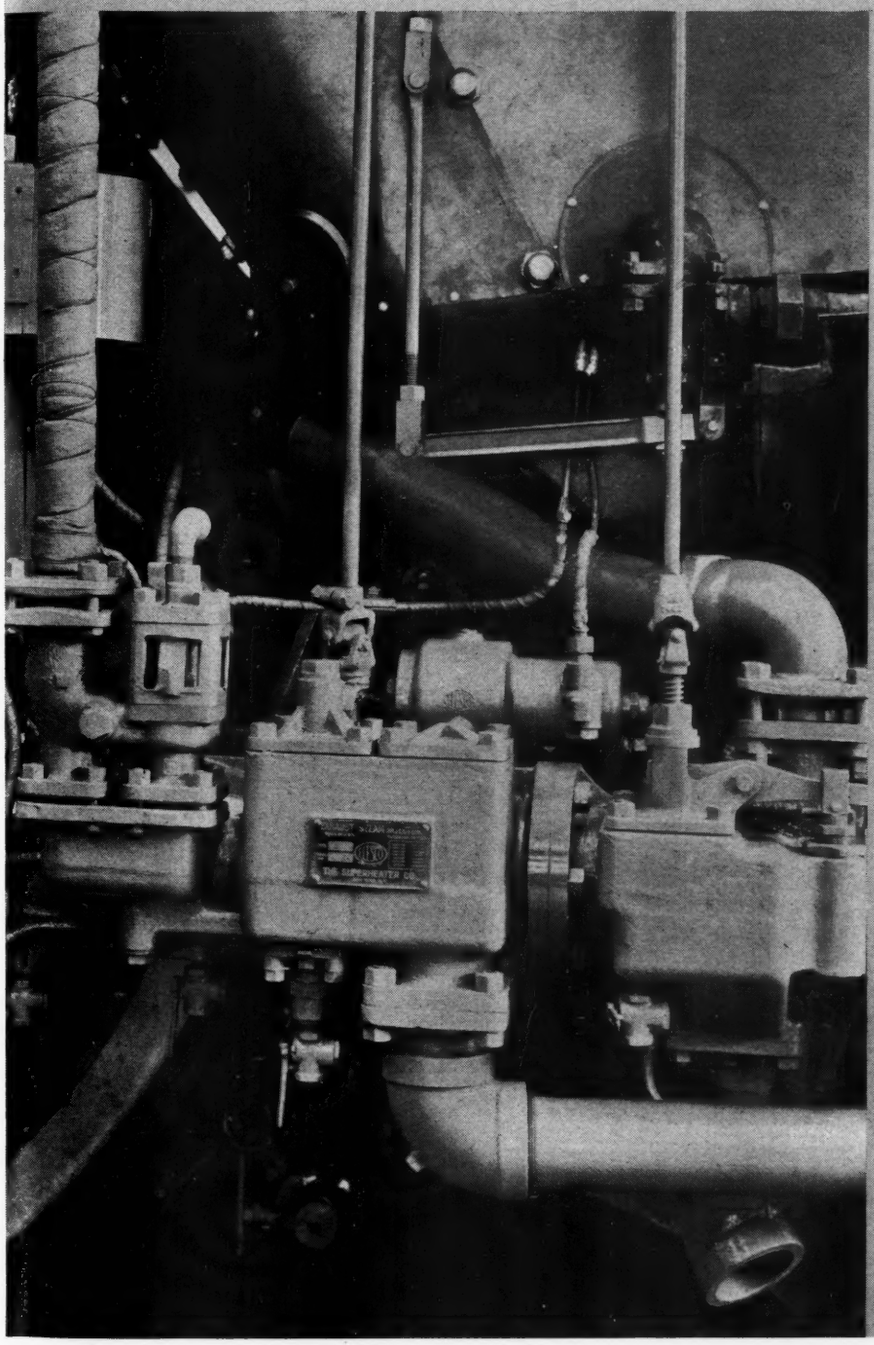
More Boiler Horsepower
Per Unit of WEIGHT and COST



The application of Elesco exhaust steam injectors substantially increase the boiler horsepower of locomotives with very little increase in weight and cost.

Elesco exhaust steam injectors, which use waste exhaust steam to both preheat the boiler feedwater and inject it into the boiler, are dependable and stable in operation. They are low in first cost. As there are no constantly moving parts, they also have a low maintenance cost.

Apply Elesco exhaust steam injectors and get more boiler horsepower from your locomotives per unit of weight and cost.

ELESCO

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THE SUPERHEATER COMPANY

Representative of AMERICAN THROTTLE COMPANY, INC.

60 East 42nd Street, NEW YORK 122 S. Michigan Avenue, CHICAGO

Canada: THE SUPERHEATER COMPANY, LTD., MONTREAL

Superheaters • Exhaust Steam Injectors • Feedwater Heaters • American Throttles • Pyrometers • Steam Dryers

REVENUES AND EXPENSES OF RAILWAYS

MONTH OF JULY AND SEVEN MONTHS OF CALENDAR YEAR 1939—CONTINUED

Name of road		Av. mileage operated during period	Operating revenues: Freight	Passenger	Total (inc. misc.)	Operating expenses: Maintenance of: Way and structures	Equipment	Traffic	Transportation	Total	Operating ratio	Net from railway operation	Operating income	Net railway operating income: 1939	1938
St. Louis-San Francisco	July	4,824	$3,298,045	$314,024	$3,912,869	$576,675	$926,610	$114,815	$1,432,270	$3,233,300	82.6	$679,569	$351,733	$363,190	$151,367
	7 mos.	4,838	21,097,314	1,845,097	25,144,453	3,975,656	6,164,201	825,304	9,795,035	22,026,257	87.6	3,118,196	864,845	813,040	—609,348
St. Louis, San Francisco & Texas	July	267	197,674	455	205,580	24,089	17,894	7,723	54,730	110,849	53.9	94,731	86,042	60,470	35,039
	7 mos.	267	932,823	3,519	980,481	168,667	105,527	56,533	372,993	749,585	76.5	230,896	171,228	—16,336	—58,386
St. Louis Southwestern Lines	July	1,690	1,393,800	33,462	1,500,091	425,419	250,835	80,074	483,909	1,316,288	87.7	183,803	68,228	—97,302	61,688
	7 mos.	1,696	10,188,569	172,084	10,816,747	2,063,880	1,996,953	578,605	3,595,331	8,769,484	81.1	2,047,263	1,272,961	266,466	687,228
Seaboard Air Line	July	4,317	2,390,180	393,918	3,035,981	570,379	696,289	156,448	1,233,192	2,827,434	93.1	208,547	—6,453	—9,098	—185,161
	7 mos.	4,317	19,415,981	4,041,664	25,869,981	3,818,629	5,155,454	1,184,356	9,683,685	21,259,749	82.2	4,610,232	2,505,232	1,663,530	870,589
Southern Railway	July	6,574	6,444,469	851,375	7,878,081	998,429	1,337,655	156,122	2,746,090	5,550,640	70.5	2,327,441	1,675,232	1,463,567	1,061,438
	7 mos.	6,583	44,302,210	4,936,268	53,909,950	6,854,223	9,320,147	1,085,943	19,155,038	38,621,205	71.6	15,288,745	10,777,352	9,108,167	4,631,026
Alabama Great Southern	July	315	515,725	61,815	614,582	86,526	120,584	13,242	176,026	419,288	68.2	195,294	128,202	144,583	140,506
	7 mos.	315	3,621,040	317,315	4,225,005	598,198	852,100	89,096	1,268,803	2,967,837	70.2	1,257,168	796,399	885,174	574,552
Cincinnati, New Orleans & Texas Pacific	July	337	1,324,115	83,122	1,480,299	170,050	268,509	30,186	362,276	881,390	59.5	598,909	437,558	452,706	401,186
	7 mos.	337	8,879,423	652,725	10,122,125	1,257,280	1,894,276	202,431	2,596,992	6,315,644	62.4	3,806,481	2,778,282	2,769,400	1,957,888
Georgia Southern & Florida	July	398	114,313	30,533	159,921	32,185	38,462	1,781	76,866	154,576	96.7	5,345	—10,572	—18,060	—15,372
	7 mos.	398	928,216	307,043	1,374,659	224,495	251,395	12,291	585,099	1,124,623	81.8	250,036	136,413	51,995	—52,973
New Orleans & Northeastern	July	204	220,664	20,068	256,205	30,521	34,673	5,439	74,962	157,361	61.4	98,844	67,798	41,823	56,870
	7 mos.	204	1,450,598	111,417	1,690,351	225,550	246,881	38,429	511,874	1,104,678	65.4	585,673	366,151	203,417	159,228
Northern Alabama	July	100	44,213	993	46,671	14,419	1,094	881	15,999	34,205	73.3	12,466	6,715	—2,512	60
	7 mos.	100	332,421	6,725	351,536	81,188	8,930	7,046	113,095	222,825	63.4	128,711	88,165	29,305	—24,763
Southern Pacific	July	8,658	10,539,893	2,741,051	14,610,926	1,350,809	2,356,260	379,724	5,231,790	10,252,090	70.2	4,358,836	3,098,833	2,253,480	1,351,400
	7 mos.	8,657	69,193,505	12,824,611	90,235,056	9,172,384	16,440,897	2,531,621	33,692,249	67,492,352	74.8	22,742,704	14,443,175	9,405,825	809,441
Southern Pacific Steamship Lines	July	....	480,667	48,427	557,852	12,723	104,310	17,300	391,529	541,289	97.0	16,563	938	711	91,337
	7 mos.	....	3,705,719	236,248	4,152,266	98,360	733,702	127,963	2,787,968	3,857,100	92.9	295,166	182,889	181,442	—99,456
Texas & New Orleans	July	4,416	2,625,492	326,796	3,225,639	533,660	591,595	122,752	1,176,268	2,628,893	81.5	596,746	303,646	99,673	180,657
	7 mos.	4,416	20,111,065	1,916,946	24,057,767	3,684,655	4,133,563	874,062	8,394,434	18,536,523	77.1	5,521,244	3,452,801	1,862,190	939,951
Spokane, Portland & Seattle	July	948	617,479	57,087	729,311	123,144	93,251	14,098	261,874	519,770	71.3	209,541	137,822	114,900	90,423
	7 mos.	948	4,119,100	256,547	4,753,650	1,011,401	641,418	73,823	1,736,838	3,658,463	77.0	1,095,187	585,032	278,147	135,238
Tennessee Central	July	286	172,932	4,170	187,286	33,331	27,094	6,324	66,265	142,154	75.9	45,132	34,126	18,333	6,169
	7 mos.	286	1,200,154	28,975	1,310,237	240,776	206,567	44,398	480,628	1,041,382	79.5	268,855	185,551	72,610	37,912
Texas & Pacific	July	1,936	1,729,010	204,665	2,106,824	246,883	429,353	73,021	666,115	1,526,260	72.4	580,564	424,307	306,533	366,260
	7 mos.	1,936	12,152,803	1,282,616	14,655,911	1,718,956	2,912,429	507,134	4,828,966	10,762,619	73.4	3,893,292	2,826,531	2,059,181	2,343,865
Texas Mexican	July	162	49,786	497	62,248	9,896	8,525	2,899	31,998	58,892	94.6	3,356	—2,440	—6,277	—9,460
	7 mos.	162	483,953	3,048	570,204	76,896	75,185	20,880	230,600	442,044	77.5	128,160	86,883	59,322	38,416
Toledo, Peoria & Western	July	239	175,117	.....	178,265	35,757	12,708	16,397	43,277	117,977	66.2	60,288	43,896	28,276	31,368
	7 mos.	239	1,179,133	58	1,196,295	267,386	99,592	112,582	286,834	843,150	70.5	353,145	245,084	147,124	143,097
Union Pacific System	July	9,899	10,717,202	2,044,305	14,026,076	2,123,675	2,466,221	447,012	4,684,829	10,561,143	75.3	3,464,933	2,119,405	1,217,336	1,884,225
	7 mos.	9,902	68,204,913	10,028,837	86,033,778	9,909,675	17,377,121	3,050,377	30,555,443	66,182,706	76.9	19,851,072	10,731,266	5,708,243	5,737,342
Utah	July	111	30,666	.....	30,794	8,989	15,085	837	9,256	37,884	123.0	—7,090	—12,015	—6,755	—9,707
	7 mos.	111	366,484	.....	367,829	62,816	138,054	3,411	105,172	336,442	91.5	31,387	—24,082	—2,106	—70,768
Virginian	July	638	1,753,603	3,401	1,789,585	162,395	369,493	23,690	254,716	843,477	47.1	946,108	706,108	759,636	616,793
	7 mos.	638	10,830,468	18,817	11,113,911	1,054,603	2,459,225	162,629	1,661,386	5,564,227	50.1	5,549,684	3,944,684	4,182,999	3,969,336
Wabash	July	2,410	3,235,114	238,587	3,711,953	538,338	560,724	148,218	1,430,782	2,832,356	76.3	879,597	658,699	294,985	347,436
	7 mos.	2,410	21,305,397	1,372,622	24,400,058	3,254,677	4,235,905	1,035,480	9,935,782	19,538,211	80.1	4,861,847	3,333,082	803,475	—240,279
Ann Arbor	July	294	320,725	3,109	342,790	28,842	60,617	13,960	139,694	255,312	74.5	87,478	65,381	54,515	8,099
	7 mos.	294	2,060,343	18,676	2,155,262	201,838	454,390	92,040	1,003,561	1,835,902	85.2	319,360	170,776	76,321	—33,832
Western Maryland	July	865	1,160,214	12,187	1,203,639	150,703	251,503	40,566	329,517	820,673	68.3	382,966	317,966	330,854	241,796
	7 mos.	876	7,991,314	47,013	8,287,760	945,573	1,859,839	274,958	2,420,061	5,829,986	70.3	2,457,774	1,977,774	2,012,103	1,620,971
Western Pacific	July	1,208	1,196,964	118,159	1,353,459	232,020	231,157	65,334	534,289	1,129,952	83.5	223,507	134,702	39,952	—23,638
	7 mos.	1,208	7,796,902	341,507	8,351,864	1,468,998	1,709,585	425,912	3,408,612	7,413,363	88.8	938,501	351,769	—108,870	—2,027,672
Wheeling & Lake Erie	July	508	1,156,955	2	1,230,441	157,030	239,472	35,257	354,513	815,877	66.3	414,564	273,342	333,312	256,777
	7 mos.	508	6,904,136	29	7,226,944	852,240	1,589,917	246,773	2,318,496	5,214,878	72.2	2,012,066	1,155,495	1,588,565	814,015